



CITY OF ABERDEEN.

REPORT

BY THE

MEDICAL OFFICER OF HEALTH

MATTHEW HAY, M.D., LL.D.

FOR THE YEAR

1911.



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POPULATION.

(Table I.)

In the report for the preceding year, advantage was taken of the fact that the report was not issued until after the publication of the Preliminary Report of the Census by the Registrar-General to give in some detail the results of the census, which, as it may be recollected, showed that the growth of the population in the preceding intercensal period had been considerably under that of the corresponding period of 1891-1901. It is proposed in this and subsequent reports to base the estimate of the population for each year on that of the census year, and the increase or decrease in the number of inhabited houses as compared with that year. This is the method that is for the first time to be followed by the Registrar-General. Hitherto, the increase in the population year by year has been estimated from the growth in the intercensal period.

The population in 1911, as estimated at the middle of the year, was 164,119, inclusive of the number of the staff and inmates of Kingseat Asylum and Oldmill Poorhouse, in so far as resident within the bounds of these institutions. Their number at the date of the census was 1,307. This gives a total population of 165,426, which is the figure used throughout the report in calculating the various rates.

The Detailed Report by the Registrar-General of the census of the City has been published since the preparation of my report for 1910. It contains some interesting information that may briefly be referred to here.

TABLE I.—ABERDEEN.—POPULATION AT VARIOUS AGE-PERIODS—1901 AND 1911.

(As estimated from Census.)

| | Under 1 year. | 1-5 years. | 5-15 years. | 15-25 years. | 25-45 years. | 45-65 years. | Above 65 years. | ALL AGES. |
|---|------------------|---------------|----------------|-----------------|-----------------|-----------------|--------------------|--------------|
| Percentage of { 1901 Population at each Age (accord- ing to Census) . { 1911 | 2·71 | 9·72 | 21·61 | 20·58 | 26·35 | 14·20 | 4·83 | ... |
| | 2·23 | 9·03 | 22·13 | 19·13 | 26·84 | 15·31 | 5·33 | ... |
| Estimated Population at each Age-Period in 1911 | 3,689 | 14,938 | 36,609 | 31,646 | 44,400 | 25,327 | 8,817 | 165,426 |

Sex Proportions.—In regard to the proportion of the sexes in the population, it is stated that, while at the preceding census in 1901 the ratio of females to males was as 117 is to 100, it was found in 1911 to have increased to the proportion of 119 to 100. The excess of females was not evident up to the age of 12, but from this age to the age-period of 25 to 30 the excess rose until it reached the ratio of 140 females to 100 males. The excess continued about equally high for the age-period 30-35 years, and then fell, but gradually rose again with advancing age, until at the age-period 65-70 the proportion of females to males was fully 150 to 100. At still greater ages, the difference was even higher.

Age Distribution.—In respect of the age distribution of the population, there has been since the preceding census a decrease in the proportion of children under five years of age, caused undoubtedly by the rapidly declining birth-rate referred to a little later in this report. The most marked decrease was, however, at the age-period of 20 to 30 years. The proportion of males at this age-period was nearly 9 per cent. less than it was in 1901, while the proportion of females was about 3 per cent. less. This decline is no doubt due to the large emigration from the City that has taken place in recent years. An apparent indication of increased longevity in 1911, as compared with 1901, is found in the fact that, while in 1901 there were 66 males and 219 females above the age of 85, there were, in 1911, 94 males and 242 females above this age. The ages of very old people, as stated at the census, are not, however, always reliable.

As regards the age-periods in use for the monthly and annual reports issued in connection with the Public Health Department, the accompanying table (Table I.) shows the differences between the censuses of 1901 and 1911.

Conjugal Condition.—The following table (Table I.(A)) shows the conjugal state of the male and female population above the age of 15 years at the census of 1911, as compared with that of 1901:—

TABLE I.(A).—ABERDEEN.—CONJUGAL CONDITION OF POPULATION ABOVE 15 YEARS OF AGE. CENSUSES 1901 AND 1911.

| | MALES. | | | FEMALES. | |
|----------------|--------------------|--------------------|-----|--------------------|--------------------|
| | 1901. Per cent. | 1911. Per cent. | | 1901. Per cent. | 1911. Per cent. |
| Single, . . . | 44·3 | 42·1 | ... | 45·0 | 44·8 |
| Married, . . . | 51·0 | 52·8 | ... | 43·3 | 44·0 |
| Widowed, . . . | 4·7 | 5·1 | ... | 11·7 | 11·2 |
| | 100·0 | 100·0 | ... | 100·0 | 100·0 |

Rather more than half the male population above the age of 15 was married, and the proportion had slightly increased since 1901—the increase being probably mainly brought about by a decrease in the number of single persons, owing to emigration. Among females, the proportion of married persons was under one-half,

being 44 per cent. in 1911, or very slightly above what it was in 1901. At each of the two censuses, the proportion of widowers was about 1 in 20 of the population above 15 years, while the proportion of widows was about 1 in 9.

As regards the proportion of unmarried females to unmarried males, it was at the ages of 15 to 20 as 113:100. At 20 to 25 years, it was as 118:100; at 25 to 30 years, 139:100; at 30 to 35 years, 157:100; at 35 to 40 years, 163:100; and at 40 to 45 years, 210:100.

At the most marriageable period of life—20 to 40 years—the excess of unmarried women over unmarried men was 3,350.

Occupations.—In spite of a possible popular impression of an increasing proportion of women being engaged in wage-earning employment, it is interesting to find from the recent census that the percentage of occupied females, above the age of 15, in the population of the City, had declined rather than increased between 1901 and 1911. The proportion of such women in 1901 was 36·5 per cent., and, in 1911, 35·8 per cent.

In 1911, altogether 22,053 women were engaged in some wage-earning or salaried occupation. Only 815 of these were married women. In striking contrast are the figures for Dundee, a city of almost similar size. In Dundee, 33,718 women were occupied, and of these no fewer than 6,444 were married women. In Aberdeen, only 3 per cent. of married women were wage-earning, while in Dundee the proportion was fully 25 per cent. The occupation most largely followed by married women in Aberdeen was fishcuring, in which 117 were engaged at the census.

The occupation in Aberdeen embracing the largest number of women workers of all ages and conditions was domestic service, with 4,521 women. Dressmakers came next, with 1,694, and clerks and typists, with 1,613. Women engaged in the manufacture of paper and its products numbered 1,292; in the fishcuring industry, 1,245; and in the linen industry, 1,228. In no other kind of occupation did the number employed exceed 1,000. Of all the occupations in which women were engaged, clerical work shows the largest increase, the number of female clerks having nearly doubled within the intercensal period. There was also a considerable increase in the number of women employed in fishcuring and in linen factories.

As regards the occupations of males, there was a considerable increase, as was generally expected, in the number of fishermen and in persons engaged in navigation. There was also a striking growth in the number of men employed in fishcuring, who had considerably more than doubled within the ten years. Persons employed in shipbuilding had also increased considerably in number. Generally speaking, fishing and all the ancillary occupations showed a considerable increase in the persons employed, and accounted for almost the whole growth in male employment since the previous census.

On the other hand, several forms of employment, especially those associated with the building trades, showed a striking decrease. For example, masons and builders had fallen from 1,850 in 1901 to 743 in 1911. Carpenters and joiners had fallen from 1,464 to 802; plasterers, from 368 to 200; slaters, from 258 to 202;

and plumbers, from 411 to 329. Thus, in the building trade, the number of persons so employed in 1911 was scarcely more than half the number employed in 1901. There was also a marked reduction in the number of labourers of all classes, except dock labourers. The total number of general labourers, for example, which was 1,980 in 1901, had fallen to 1,146 in 1911. Granite cutting, which forms one of the leading industries of the City, showed some decline in the numbers employed. In 1901, stonecutters, dressers, and quarriers amounted to 2,275, while, in 1911, they were 2,047. The small decrease in the number of men thus employed does not necessarily, however, imply a decrease in the output of monumental and other stone work, as the introduction of pneumatic tools within the decade has considerably diminished the amount of labour necessary in monumental stone work.

Considerable industrial depression was being experienced in the City during the five or six years preceding the last census, but there cannot be any doubt that the depression would have been much more acutely felt had the fishing industry not progressed so rapidly within the last decade.

Housing.—During the ten years of the intercensal period, the number of inhabited houses increased from 33,248 to 36,159, or by nearly 9 per cent., as against an increase of 6·2 per cent. in the population, including Oldmill Poorhouse and Kingseat Asylum.

The percentage of uninhabited houses at the census was 5·0, or slightly higher than in 1901, when it was 4·3. In Glasgow, it was 12·8 in 1911, and in Edinburgh, 9·2.

The following tables, which have been made up from material extracted or calculated from the Census Reports for the four principal towns in Scotland, afford some interesting comparisons for these towns, and, on the whole, place Aberdeen in a not unfavourable light. In each table, in order to exclude institutions, houses of 25 rooms and upwards are not included:—

COMPARISON OF HOUSING IN FOUR PRINCIPAL TOWNS IN SCOTLAND.

(Excluding houses and institutions of 25 rooms and upwards.)

Census 1911.

TABLE I. (B).—HOUSES OF EACH SIZE (per 1,000 of Total Houses in each Town).

| | 1-Roomed Houses. | 2-Roomed Houses. | 3-Roomed Houses. | 4-Roomed Houses. | 5-Roomed Houses. | Houses of 6 Rooms and upwards. | Total Houses of | |
|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---|------------------|-----------------------|
| | | | | | | | 1 to 4 rooms. | 5 Rooms & upwards. |
| Aberdeen, . . . | 98 | 369 | 279 | 113 | 31 | 110 | 859 | 141 |
| Edinburgh, . . . | 99 | 316 | 220 | 143 | 65 | 157 | 778 | 222 |
| Glasgow, | 200 | 464 | 189 | 66 | 28 | 53 | 919 | 81 |
| Dundee, | 170 | 530 | 172 | 52 | 23 | 53 | 924 | 76 |

TABLE I. (C).—POPULATION OCCUPYING HOUSES OF DIFFERENT SIZES (per 1,000 of Total Population).

| | 1-Roomed Houses. | 2-Roomed Houses. | 3-Roomed Houses. | 4-Roomed Houses. | 5-Roomed Houses. | Houses of 6 Rooms and upwards. | Total Houses of | |
|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------------|-----------------|--------------------|
| | | | | | | | 1 to 4 Rooms. | 5 Rooms & upwards. |
| Aberdeen, . . . | 48 | 338 | 320 | 130 | 34 | 130 | 836 | 164 |
| Edinburgh, . . . | 61 | 311 | 228 | 150 | 67 | 183 | 750 | 250 |
| Glasgow, . . . | 138 | 487 | 212 | 72 | 29 | 62 | 909 | 91 |
| Dundee, . . . | 99 | 531 | 216 | 64 | 27 | 63 | 910 | 90 |

TABLE I. (D).—AVERAGE NUMBER OF PERSONS PER HOUSE.

| | 1-Roomed Houses. | 2-Roomed Houses. | 3-Roomed Houses. | 4-Roomed Houses. | 5-Roomed Houses. | Houses of 6 Rooms and upwards |
|------------------|------------------|------------------|------------------|------------------|--------------------|-------------------------------|
| | | | | | | |
| Aberdeen, . . . | 2·2 | 4·0 | 5·0 | 5·0 | 5·0 4·8 | 5·2 |
| Edinburgh, . . . | 2·7 | 4·3 | 4·6 | 4·6 | 4·5 | 5·1 |
| Glasgow, . . . | 3·2 | 4·9 | 5·2 | 5·0 | 4·9 | 5·5 |
| Dundee, . . . | 2·4 | 4·2 | 5·2 | 5·2 | 4·9 | 5·1 |

TABLE I. (E).—AVERAGE NUMBER OF PERSONS PER ROOM IN HOUSES OF DIFFERENT SIZES.

| | 1-Roomed Houses. | 2-Roomed Houses. | 3-Roomed Houses. | 4-Roomed Houses. | 5-Roomed Houses. |
|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | | | |
| Aberdeen, . . . | 2·2 | 2·0 | 1·7 | 1·3 | 1·0 |
| Edinburgh, . . . | 2·7 | 2·2 | 1·5 | 1·1 | 0·9 |
| Glasgow, . . . | 3·2 | 2·4 | 1·7 | 1·3 | 1·0 |
| Dundee, . . . | 2·4 | 2·1 | 1·7 | 1·3 | 1·0 |

Table I.(B), which gives the proportion of houses of different sizes in each town, shows that the number of one-roomed houses in Aberdeen per 1,000 houses of all sizes (excluding houses of 25 rooms and upwards) was 98, and in Edinburgh, 99. In Glasgow, it was as high as 200 per 1,000, while in Dundee it was 170. As regards two-roomed houses, Edinburgh had the smallest proportion, with rather less than one-third. Aberdeen stood next, with slightly above one-third. In Glasgow, the proportion of such houses was slightly under one-half of the whole of the houses, and in Dundee, above one-half. Three-roomed houses were proportionately most

numerous in Aberdeen, where they amounted to between one-fourth and one-third of the whole of the houses, and were least numerous in Dundee, in which the proportion was about one-sixth. As to four-roomed houses, they were proportionately most numerous in Edinburgh, and amounted to about one-seventh of the whole, and were least numerous in Dundee, where they are about one-twentieth. In Aberdeen, they amounted to about one-ninth.

Regarding all houses of four rooms and under as representing the houses occupied chiefly by the working-class and wage-earning part of the population, Table A shows that these houses constituted 92 per cent. of the total houses in Glasgow and Dundee, 86 per cent. in Aberdeen, and 78 per cent. in Edinburgh.

Table I.(c) is constructed on similar lines to Table I.(b), but shows the proportion of population occupying houses of different sizes. The results are somewhat the same as those in Table I.(b), but owing to less crowding of the occupants in the smallest of the houses in Aberdeen as compared with other towns, the position of Aberdeen is still better in respect of such houses. Thus, 48 per 1,000 of the population of Aberdeen was at the last census living in one-roomed houses, while in Glasgow the proportion occupying such houses was 138, or nearly three times as high. In Edinburgh, it was 61, and in Dundee, 99.

Perhaps the most interesting comparison is found in Tables I.(d) and I.(e), in the former of which the average number of persons *per house* is given for each size of house for houses of one room up to houses of six rooms, and, in the latter, the average number of persons *per room* for each class of house. The numbers in these two tables are, on the whole, a fair test of the relative degrees of crowding in the four cities. They show that, in houses of three rooms and upwards, the number of occupants per house was remarkably steady, and was practically the same in any one town for each size of house, irrespective of the number of rooms, and did not increase with the size of house. It was also remarkably similar as between the different towns, averaging about five persons, except in Edinburgh, where the average was about 4.5. In houses of one and two rooms, the numbers were more varied. It is in these houses that overcrowding is usually met with, as is evident from Table I.(e), which shows the average number of persons per room. In such houses, the average was usually above two, while in houses of larger size it was substantially under two, and diminished as the size of house increased.

In both one-roomed houses and two-roomed houses, Aberdeen showed less crowding than any of the other three cities. For one-roomed houses, the average number of persons per room was 2.2; in Dundee, it was 2.4; and in Edinburgh and Glasgow, 2.7 and 3.2, respectively. In other words, in Edinburgh, a one-roomed house contains on an average almost one and a-quarter times, and, in Glasgow, one and a-half times the number of occupants that such a house does in Aberdeen. The difference is less in Dundee.

As regards two-roomed houses, Aberdeen again showed the smallest proportion of occupants, the average being 2.0 persons per room. Dundee came next, with 2.1; Edinburgh, with 2.2; and Glasgow, with 2.4.

The favourable position of Aberdeen in regard to lessened crowding may be in

some measure due to the strict attention that has been given for many years by the Sanitary Department to the detection of cases of overcrowding. The standard of cubic contents for each person which has formed the basis of the action of the Department has for many years been 400 cubic feet for adults. No standard is fixed for dwelling-houses in the Public Health Act, but the Department has been applying to such houses the standard stated in the bye-laws for common lodging-houses. The same standard is, I am informed, acted upon in Edinburgh, Glasgow, and Dundee.

TABLE I. (F)—PERCENTAGE OF POPULATION LIVING IN DIFFERENT DEGREES OF CROWDING.

| | CENSUS 1901. | | | | CENSUS 1911. | | | |
|-------------------------|-------------------|----------------|----------------|----------|-------------------|----------------|----------------|----------|
| | PERSONS PER ROOM. | | | | PERSONS PER ROOM. | | | |
| | 2 and under. | 3 and above 2. | 4 and above 3. | Above 4. | 2 and under. | 3 and above 2. | 4 and above 3. | Above 4. |
| Aberdeen, . . . | 61·9 | 25·8 | 9·6 | 2·7 | 63·5 | 24·6 | 9·8 | 2·1 |
| Edinburgh, . . . | 67·1 | 19·4 | 8·8 | 4·7 | 67·3 | 19·9 | 8·6 | 4·2 |
| Glasgow, | 45·3 | 26·6 | 17·2 | 10·9 | 44·3 | 27·8 | 17·2 | 10·7 |
| Dundee, | 50·6 | 27·5 | 14·5 | 7·4 | 51·8 | 28·2 | 13·9 | 6·1 |

The reference to differences in crowding between the four principal towns may be closed with a table (Table I.(F)) which shows these differences in an even more striking manner than is indicated in the preceding tables. For the estimates in this table, I am entirely indebted to the census reports. All that I have done is merely to bring them together from the reports of the different towns and throw them into tabular form for easy comparison. This table shows that in Aberdeen only 2·1 per cent. of the population were living with more than four persons in a room, while in Edinburgh the percentage was 4·2, or exactly twice as high as in Aberdeen. In Dundee, it was 6·1, or nearly three times as high; and in Glasgow, it was 10·7, or five times as high. With lesser degrees of crowding, the differences are not so great. For example, 9·8 per cent. of the population in Aberdeen were living with four and above three in a room; in Edinburgh, the percentage was 8·6, or slightly less than in Aberdeen; in Dundee, it was 13·9; and in Glasgow, 17·2.

In the same table (I.(F)) comparison is made between 1901 and 1911 in respect of crowding. This is the only table in which such comparison is properly possible, as it deals only with rooms without reference to the number of rooms in a house. A house was differently defined in the census of 1911 from what it had been in preceding censuses. In the earlier censuses, a room occupied by a lodger was counted as a separate house, and went to swell the apparent number of one-roomed houses. In 1911, the ordinary meaning of a house was adopted, and lodgers' rooms were reckoned as part of the whole house.

The comparison between the two censuses for the four cities shows that there has been very little change in the intervening ten years. If one looks at the most crowded rooms, viz., those with more than four persons in each, it will be seen that Aberdeen shows the largest proportionate diminution of crowding, viz., from 2·7 to 2·1, Dundee coming next with a reduction of 7·4 to 6·1, followed by Edinburgh with a fall from 4·7 to 4·2, and, last of all, by Glasgow, with the slight drop of 10·9 to 10·7.

Although these comparisons are, as already remarked, not unfavourable to Aberdeen, there is obviously considerable room for improvement.

At the same time allowance must be made in working-class families for the not infrequent case in which the family is still quite young and no member of it can conveniently be left to sleep in a room apart from the parents. In a family of three or even four children all of them may be under six years of age, and with their parents will give five or six persons in a single room.

Birth-place of Population.—Much fuller information is supplied in the recent census regarding the birth-place than in preceding censuses, and it provides some interesting results.

TABLE I. (G).—ABERDEEN.—BIRTHPLACES OF PERSONS ABOVE 20 YEARS OF AGE.
(*Census 1911.*)

| BIRTHPLACE | Males. | Females. | Both Sexes. | Percentage of Total Persons |
|---|--------|----------|----------------|-----------------------------------|
| City of Aberdeen, | 16,773 | 22,729 | 39,502 | 42·8 |
| Counties of Aberdeen, Banff, and Kincardine, . . | 15,135 | 21,416 | 36,551 | 39·6 |
| Counties of Inverness, Elgin, Nairn, Ross, Caithness, Sutherland, Shetland, and Orkney, . . } | 1,462 | 1,886 | 3,348 | 3·6 |
| Other Scottish Counties (incl. unstated Counties), | 3,068 | 3,558 | 6,626 | 7·2 |
| England and Wales, | 2,487 | 2,175 | 4,662 | 5·1 |
| Ireland, | 204 | 233 | 437 | 0·5 |
| British Colonies (incl. Persons born at Sea), . . | 176 | 269 | 445 | 0·5 |
| Foreign Countries, | 398 | 219 | 617 | 0·7 |
| Total, | 39,703 | 52,485 | 92,188 | 100·0 |

Of persons under 20 years of age, about 72 per cent. had been born within the City.

The figures with regard to persons of 20 years of age and upwards are more interesting as representing more nearly the amount of immigration into Aberdeen from other places. I have, therefore, given these figures in some detail in the accompanying table (I.(c)), which shows that only 43 per cent., or considerably less than

a half of the population at this age, had been born within the City. The remainder were immigrants chiefly from what may be called the home counties of Aberdeen, namely, Aberdeenshire, Kincardineshire, and Banffshire, in which nearly 40 per cent. of the population of this age had been born. The northern counties provided 2·6 per cent., and the mid and southern counties, chiefly Forfarshire, Lanarkshire, Midlothian, and Fifeshire supplied 6·9 per cent. From England and Wales came 5 per cent., and from Ireland only 0·5 per cent.

If similar information had been available at the time of preparing my special report in 1909 on tuberculosis in Aberdeen, I should not have ventured on the remark that tuberculosis appeared to be more dangerous to such inhabitants of the City as had been born in the country. I found then a preponderance of deaths from tuberculosis in families from outside the City—mainly families from the rural parts of the surrounding counties—but I did not realise, in the absence of such information as has now been supplied in the recent census, that the proportion of City-born persons was so low as it has proved to be.

BIRTHS.

(Table II.)

The total number of births registered during the year, inclusive of 30 births in the City Poorhouse at Oldmill, was 4,057, or at the rate of 24·5 per 1,000 of the population. In the preceding year (1910), the births amounted to 4,319, and were at the rate of 26·2 per 1,000 of the population. In 1909, the births were 4,518, with a rate of 27·5.

The birth-rate for the past year is distinctly the lowest on record since civil registration began in 1855, and, as was remarked in the report for the preceding year, the decline has been especially obvious within the last seven or eight years. In 1903, the birth-rate was 31·5. It has now fallen, by nearly one-fourth, to 24·5.

As has been stated in previous reports, Aberdeen is not singular in the rapid decline of its birth-rate. Practically all the principal towns in this country are showing a decline, and some of them at an even greater rate than Aberdeen. In Edinburgh, for example, the birth-rate has now fallen to 21·3. Aberdeen stands, however, next to Edinburgh among the seven principal towns in Scotland in respect of the lowness of its birth-rate. (See Table XIII.)

The proportion of males to females born during each of the past five years in Aberdeen has been as follows:—

| Year. | Males to 100 females. | Year. | Males to 100 females. |
|---------------|--------------------------|---------------|--------------------------|
| 1906, | 105 | 1909, | 102 |
| 1907, | 113 | 1910, | 101 |
| 1908, | 104 | 1911, | 102 |

The low proportion of males to females observed in the preceding two years has been maintained in 1911, when it was 102 to 100, and affords an interesting contrast with the high proportion of 113 to 100 in 1907.

TABLE II.—ABERDEEN.—MARRIAGE, BIRTH, AND DEATH RATES—1856 TO 1911.

Per 1,000 of population.

| Year. | Population. | Marriages. | | Births. | | Deaths.* | | | Excess of Birth-Rate over Death-Rate. |
|-------------------|-------------|------------|-------------------------------|---------|-------------------------------|----------|-------------------------------|-----------------------|---------------------------------------|
| | | Number. | Rate per 1,000 of Population. | Number. | Rate per 1,000 of Population. | Number. | Rate per 1,000 of Population. | Average Age at Death. | |
| 1911 | 165,426 | 1,335 | 8.1 | 4,057 | 24.5 | 2,512 | 15.2 | 37.7 | 9.3 |
| 1910 | 164,800 | 1,325 | 8.0 | 4,319 | 26.2 | 2,339 | 14.2 | 40.8 | 12.0 |
| 1909 | 164,100 | 1,347 | 8.2 | 4,518 | 27.5 | 2,675 | 16.3 | 36.2 | 11.2 |
| 1908 | 163,600 | 1,297 | 7.9 | 4,472 | 27.3 | 2,582 | 15.8 | 37.4 | 11.5 |
| 1907 | 163,100 | 1,473 | 9.0 | 4,502 | 27.6 | 2,474 | 15.2 | 37.8 | 12.4 |
| 1906 | 162,500 | 1,358 | 8.4 | 4,712 | 29.0 | 2,491 | 15.3 | 35.9 | 13.7 |
| Mean of 1906-1910 | 163,620 | 1,360 | 8.3 | 4,505 | 27.5 | 2,512 | 15.4 | 37.6 | 12.2 |
| 1905 | 161,500 | 1,374 | 8.5 | 4,892 | 30.3 | 2,618 | 16.2 | 36.5 | 14.1 |
| 1904 | 160,100 | 1,505 | 9.4 | 4,885 | 30.5 | 2,826 | 17.7 | 33.6 | 12.8 |
| 1903 | 158,300 | 1,460 | 9.2 | 4,986 | 31.5 | 2,741 | 17.3 | 34.2 | 14.2 |
| 1902 | 156,300 | 1,429 | 9.1 | 4,814 | 30.8 | 2,816 | 18.0 | 35.7 | 12.8 |
| 1901 | 154,208 | 1,372 | 8.9 | 4,784 | 31.0 | 2,813 | 18.2 | 34.4 | 12.8 |
| Mean of 1901-1905 | 158,082 | 1,428 | 9.0 | 4,872 | 30.8 | 2,763 | 17.5 | 34.9 | 13.3 |
| 1896-1900 | 145,740 | 1,356 | 9.3 | 4,636 | 31.8 | 2,644 | 18.1 | 33.3 | 13.7 |
| 1891-1895 | 131,627 | 1,099 | 8.4 | 4,114 | 31.3 | 2,539 | 19.3 | 32.9 | 12.0 |
| 1886-1890 | 117,587 | 911 | 7.8 | 3,827 | 32.5 | 2,370 | 20.2 | ... | 12.3 |
| 1881-1885 | 108,959 | 848 | 7.8 | 3,712 | 34.1 | 2,159 | 19.8 | ... | 14.3 |
| 1876-1880 | 100,419 | 788 | 7.9 | 3,480 | 34.7 | 2,100 | 20.9 | ... | 13.8 |
| 1871-1875 | 91,941 | 705 | 7.7 | 3,169 | 34.5 | 2,063 | 22.4 | ... | 12.1 |
| 1866-1870 | 84,234 | 684 | 8.1 | 3,010 | 35.7 | 1,978 | 23.5 | ... | 12.2 |
| 1861-1865 | 77,040 | 624 | 8.1 | 2,663 | 34.6 | 1,915 | 24.9 | ... | 9.7 |
| 1856-1860 | 73,458 | 524 | 7.1 | 2,397 | 32.6 | 1,772 | 24.1 | ... | 8.5 |

* Corrected for transferred deaths for 1904 and subsequent years.

Illegitimate Births.—The proportion of illegitimate births during the year was 10·9 per 1,000, or about 1 in every 9 births. This shows a considerable increase as compared with the preceding year, when the proportion was 9·2 per cent., or about 1 in every 11 births, and is the highest proportion of illegitimate births recorded since 1886. The average for the ten years preceding 1911 was 8·9.

Still-Births.—Information regarding still-births is now being obtained under the Notification of Births Act. This information is more fully referred to in the report on the work of the Health Visitors, but it may be mentioned here, when dealing with births in general, that the total number of notified still-births in 1911 was 201. In 1910, it was 193. A still-born child, as defined in the Notification Act, is a child born after the seventh month of pregnancy. The figures given include a few notified infants—about a dozen in each year—born between the sixth and seventh months. The proportion of notified still-births, including the births of children between the sixth and seventh months, was, in 1910, 47 per 1,000. In 1911, it was 48 per 1,000. I gave reasons in the report for 1910 for believing that 8 to 10 per cent. of still-births escaped notification. If allowance is made for this loss, the proportion of still-births in 1911 would have been about 53 per 1,000, or about 1 in 19.

MARRIAGES.

(Tables II. and II. (A).)

During the year 1911, there were 1,335 marriages within the City, equivalent to a rate of 8·1 per 1,000 of population. In the preceding year, there were 1,325 marriages, with a rate of 8·0, and in 1909, there were 1,347 marriages, with a rate of 8·2.

The marriage-rate is slightly under the average for the preceding ten years, which was 8·3.

In the report for the preceding year, I gave at some length the results of an analysis of the constitution of the marriage-rate, and, among other things, pointed out that the number of registered marriages in a town like Aberdeen is not a correct index of the actual number of marriages of persons residing in and belonging to the town. A considerable number of the male residents choose wives from places outside the town, and are usually married and have their marriages registered in these places; while, on the other hand, a not inconsiderable number of marriages take place in the town between persons neither of whom is ordinarily resident in the town. Persons in the surrounding rural districts sometimes find it a convenience to be married in a hall or a hotel in the town; and there are still others who come to the town for facility in carrying through an irregular marriage—that is, a marriage without church rites.

In these days, when greater precision is being insisted upon in regard to the registration of social data, and when steps are being taken by the Registrar-

General to give greater accuracy to the death-rate by the correction of it for so-called transferred deaths, it is, perhaps, worth considering whether some correction might not be attempted for the marriage-rate. This could be done in the Registrar-General's office from the returns made by the several district registrars. The object would be to obtain for each administrative area the true number of persons, male and female, residing within the area who had married during the year, whether their marriage took place within or without the area, and should be stated in terms of the number of each sex married. This would be arrived at by deducting from the number of persons registered as marrying within the area such persons as were not residents in it immediately previous to the marriage, and adding the number of persons residing in the area who had been married outside the area. If the task were thought to be too large for the whole of Scotland, the corrections might, to begin with, be confined to the principal towns.

I give, as in the preceding year, a table in which all persons married within the City of Aberdeen in 1911 are grouped according to sex, occupation, and age, and also according to residence within or without the City.

Residence.—Out of the 1,335 marriages that took place in the City of Aberdeen during 1911, 224 were between parties neither of whom belonged to the City. In the preceding year, out of a total of 1,325 marriages, the number of such marriages of extraneans amounted to 217.

In 902 marriages, both parties were resident in the City. In 1910, the corresponding number was 904. The remaining 209 marriages in 1911 were of persons only one of whom was resident in the City.

Irregular Marriages.—The number of irregular marriages, including 31 between parties neither of whom belonged to the City, was 105. In the preceding year, it was 129, of which 59 were marriages of non-residents.

Status.—In the 1,335 marriages, there were 115 widowers and 51 widows. In the preceding year, there were 126 widowers and 63 widows. There was thus a perceptible falling-off in the marriages of those who had been previously wedded.

Occupations of men.—The proportions of the men in the different classes of occupations were much the same as in the preceding year—the wage-earning classes, as usual, greatly predominating.

Occupations of women.—The numbers show some differences as compared with those of the preceding year. Fewer domestic servants were married, as also considerably fewer women without stated occupation. The number of women from these two groups who married in 1911 was 553. In the preceding year, it was 621. On the other hand, there was a considerable increase in the marriages of women in employment in factories, workshops, offices, shops, and schools. The marriages of these numbered 767, as against 684 in 1910. The women, therefore, with presumably the best training for domestic life—domestic servants and women engaged in home duties—were in much less demand than in the preceding year.

Ages.—The number of very early marriages, especially as regards men, was lower than in the preceding year. Thus, 26 men, or boys, under 20 years married, as compared with 38 in the preceding year. The corresponding numbers for girls were 134 and 137. The early marriages of men were, as usual, almost exclusively among persons of the labouring and artisan classes. Those of women were chiefly among factory workers, but also to some extent among domestic servants and girls in shops.

DEATHS.

(*Table II.*)

The total number of deaths during the year was 2,512, equivalent to a death-rate of 15·2 per 1,000 of the population. In the preceding year, the deaths amounted to 2,339, giving a death-rate of 14·2.

These death-rates have been obtained after adjusting the deaths by the interchange between this and other districts of deaths of persons occurring in districts outside their usual place of residence. This adjustment is especially necessary in Aberdeen, as the City Poorhouse and the City Asylum are situated outside the boundary of the town. I have suggested in previous reports that it would be an advantage, not only in regard to the registration of deaths from a statistical standpoint, but also in regard to the convenience of the officials of these institutions and the relatives of the deceased in registering the deaths, if the Registrar-General were to include, for registration purposes, these two institutions within the registration area of the City.

The death-rate (15·2) for the year is not the lowest on record. This was reached in the preceding year, with the rate of 14·2. It stands, however, with the rate in 1907, next to the lowest on record. The increase since the preceding year was largely due to a distinctly greater prevalence of zymotic disease, especially of measles, whooping cough, and scarlet fever.

The *average age at death* of all persons dying during the year was 37·7 years. In the preceding year, it was 40·8, and in 1907, it was 37·8. With these exceptions, the figure for last year is the highest recorded. Twenty years ago the average age at death was about 32 to 33 years.

Relation of Death-Rate to Birth-Rate.—In Table II. will be found a column giving the excess of the birth-rate over the death-rate since the commencement of registration. It shows that the excess in 1911 was 9·3 per 1,000 of the population. This is the lowest, except in the first quinquennium of registration, when the rate was 8·5. It was then, however, probably not quite correctly stated, owing to the notification of births being not quite complete in the first few years of registration. Up to 1910, in spite of a rapidly decreasing birth-rate, the excess of births over deaths did not greatly diminish, owing to the death-rate falling in almost equal measure. In 1910, for example, the excess was 12·0. Now it has dropped suddenly to 9·3, owing to a combination of a large decrease in the birth-rate with a slight increase in the death-rate.

ANALYSIS OF THE DEATH-RATE.

(a) Mortality in Relation to Age (Tables III., IV., IV.(A), and V.).

Infantile Mortality.—During the year, there were 563 deaths among children under one year of age, as compared with 478 in the preceding year and 671 in 1909. The infant mortality rate, expressed as deaths per 1,000 births, was 139 during the year, as against 111 in 1910 and 149 in 1909. The considerable increase in the infant mortality during the past year, as compared with the preceding year, is disappointing, but was largely occasioned by the high mortality from measles and whooping cough among infants and an accompanying increased mortality from lung diseases. These two zymotics are always serious for infants, and are apt to be accompanied or followed by grave inflammatory conditions of the bronchi and the lungs. The excessive mortality occurred mainly during the closing months of the year.

Even when allowance is made for this exceptional excess of mortality, one is disappointed to find that in Aberdeen the infant mortality remains at a higher rate than it should, when compared with that of many other towns elsewhere, and also with its own rate in preceding years. The rate has undoubtedly fallen in recent years, the average for the five years preceding 1911 being 128, as against an average of 143 during the five years 1901-05, but the fall in the mortality rate at the infant age is very much less than that at higher ages, as will be seen by reference to Table III.

Steady efforts are being made by the Health Visitors of the Corporation, with the splendid assistance of the Clubs for Mothers and Babies, to improve the conditions of life for infants by the education of the mothers, and by the supervision of the sanitary condition of the homes of the poorer classes.

As I have said in former reports, the mortality among infants ought not to exceed 60 to 70 per 1,000 births, if the children receive proper and intelligent care from their mothers. Last year, as just stated, it was 139. Scarcely any infants are born with actual disease, and only a few are so debilitated at birth as to make it difficult, even for careful mothers, to nurse them safely through infancy. A large proportion of those that die during the first year of life have been quite healthy when born, and there can be no doubt that with ordinary care they would have survived the earlier years of life, except in those cases—which, after all, are not numerous—in which the infant is carried off by a serious attack of a zymotic like measles or whooping cough.

It is suggestive that of the 63 deaths assigned to diseases of the digestive system, including diarrhoea, only 6 took place during the first month of life. The tendency to die from causes connected with the digestive system is obviously low in the newly-born child, and becomes well marked only when errors of dieting and when carelessness in preserving the food from impurity have had time to develop their effects. A large proportion of the 85 deaths attributed during the year to wasting and debility was mainly dependent on mistakes in feeding. The same is in

TABLE III.—ABERDEEN.—MORTALITY FROM ALL CAUSES AT VARIOUS AGE-PERIODS *
(per 1,000 of population at each age).

| Year. | INFANTILE MORTALITY. Deaths of Infants under 1 year per 1,000 Births. | AGE PERIOD. | | | | | | All ages. |
|------------------------------------|---|-----------------------------------|------------------------------------|--|--|---|--|-----------|
| | | 0—5 years. (Infant Period.) | 5—15 years. (School Period.) | 15—25 years. (Adolescent Period.) | 25—45 years. (Early Mature Period.) | 45—65 years. (Late Mature Period.) | 65 years and upwards. (Post-mature Period.) | |
| 1911 . . | 139 | 45·5 | 3·1 | 3·9 | 5·7 | 18·8 | 79·1 | 15·2 |
| 1910 . . | 111 | 33·1 | 2·9 | 3·3 | 6·4 | 18·7 | 89·2 | 14·2 |
| 1909 . . | 149 | 48·6 | 3·0 | 3·7 | 6·8 | 21·7 | 81·6 | 16·3 |
| 1908 . . | 129 | 43·2 | 3·0 | 3·6 | 7·4 | 21·2 | 82·8 | 15·8 |
| 1907 . . | 125 | 42·3 | 2·8 | 3·3 | 7·1 | 18·3 | 84·5 | 15·2 |
| 1906 . . | 127 | 45·2 | 2·6 | 3·8 | 7·4 | 17·7 | 83·1 | 15·5 |
| Mean of 1906-1910 (Five years). | 128 | 42·5 | 2·9 | 3·5 | 7·0 | 19·5 | 84·2 | 15·4 |
| 1905 . . | 138 | 47·2 | 3·1 | 4·1 | 6·8 | 21·4 | 82·9 | 16·2 |
| 1904 . . | 151 | 58·0 | 3·2 | 3·8 | 8·0 | 20·3 | 83·0 | 17·5 |
| 1903 . . | 135 | 52·0 | 2·8 | 4·6 | 7·0 | 20·4 | 78·8 | 16·6 |
| 1902 . . | 137 | 50·3 | 2·9 | 5·2 | 7·7 | 22·3 | 87·8 | 17·5 |
| 1901 . . | 152 | 53·7 | 3·4 | 5·1 | 7·6 | 22·3 | 83·9 | 17·8 |
| Mean of 1901-1905 (Five years). | 143 | 52·2 | 3·1 | 4·6 | 7·4 | 21·3 | 83·3 | 17·1 |
| 1896-1900 . | 144 | 54·2 | 3·4 | 5·0 | 9·2 | 22·2 | 81·6 | 18·1 |
| 1891-1895 . | 147 | 57·5 | 4·5 | 5·8 | 9·3 | 22·7 | 86·5 | 19·3 |
| 1886-1890 . | 140 | 52·9 | 4·8 | 7·0 | 10·5 | 22·9 | 88·1 | 20·2 |
| 1881-1885 . | 126 | 50·9 | 5·4 | 6·4 | 10·1 | 23·8 | 86·3 | 19·8 |
| 1876-1880 . | 129 | 53·1 | 6·2 | 7·7 | 11·3 | 22·1 | 86·6 | 20·9 |
| 1871-1875 . | 133 | 57·5 | 7·7 | 8·2 | 12·0 | 22·6 | 91·5 | 22·4 |
| 1866-1870 . | 133 | 68·0 | 7·2 | 8·9 | 12·4 | 22·2 | 91·2 | 23·5 |
| 1861-1865 . | 130 | 68·9 | 8·1 | 10·5 | 13·4 | 24·7 | 98·7 | 24·9 |
| 1856-1860 . | 126 | 67·8 | 9·3 | 9·8 | 12·6 | 21·8 | 97·5 | 24·1 |

* Corrected for transferred deaths in 1904 and subsequent years.

considerable measure true of the 31 deaths from convulsions. Deaths from all these causes, with a few exceptions, occur some weeks or months after the birth of the child.

Tables IV. and IV.(A) give details of the causes of death among infants in 1911 and in certain preceding years. In the latter table is given the number of surviving infants, after deducting the deaths under one year, with the rate of survivals per 1,000 of population. This rate represents the net gain to the population after the perils of the first year of life have been passed. Owing to the very low birth-rate during the past year, and the somewhat high mortality among infants, the survival rate is considerably the lowest on record, being only 21.1, as against 23.3 in the preceding year, and an average of 24.0 for the preceding five years.

The Notification of Births Act continues to be very useful in enabling the Health Visitors to reach quickly the mothers and babies requiring their attention. The Act is being worked with great smoothness and, in all the circumstances, with remarkable completeness. The notifications are checked by returns obtained from the registrars; and, in each case in which no notification has been received, a notice is at once sent to the parents directing their attention to their neglect to notify, and to their consequent liability to penalty.

The subjoined table gives the notified births during the year. It shows that, out of 4,027 births registered within the City, exclusive of the births at Oldmill Poorhouse, 3,015, or almost exactly 75 per cent., were notified within 48 hours, ~~which is the time prescribed under the Act~~; 605, or 15 per cent., were notified within 4 days; and 152, or about 4 per cent., within 7 days. The remaining 220 intimations were, for the most part, received after the parents had been reminded of their duty.

BIRTHS NOTIFIED IN 1911 UNDER THE NOTIFICATION OF BIRTHS ACT.

(Total Live-Births registered by Registrars—4,027.)

(Excluding 30 in City Poorhouse, outside City Boundary, and not Notified.)

| NOTIFIED BY | LIVE-BORN. | | | | | STILL-BORN. | | | | |
|---|------------------------|------------|------------|------------|--------------|--------------|------------|------------|----------|------------|
| | Within 48 Hours. | 4 Days. | 7 Days. | Later. | All. | 48 Hours. | 4 Days. | 7 Days. | Later. | All. |
| Parent | 655 | 147 | 50 | 182 | 1,034 | 24 | 4 | 2 | 1 | 31 |
| Medical Attendant . . . | 1,512 | 241 | 63 | 27 | 1,843 | 80 | 17 | 2 | 1 | 100 |
| Midwife or Nurse . . . | 640 | 194 | 36 | 8 | 878 | 44 | 14 | 2 | — | 60 |
| Parent and Med. Attendant or Midwife | 202 | 23 | 3 | 3 | 231 | 9 | — | — | — | 9 |
| Med. Attendant and Mid- wife | 6 | — | — | — | 6 | 1 | — | — | — | 1 |
| GRAND TOTAL . . . | 3,015 | 605 | 152 | 220 | 3,992 | 158 | 35 | 6 | 2 | 201 |

TABLE IV.—ABERDEEN.—CAUSES OF DEATH AMONG CHILDREN UNDER FIVE YEARS OF AGE.—Year 1911.
(Corrected for transferred deaths.)

| CAUSES OF DEATH. | AGE. | | | | | | | | | | | | | | | | | | | Average for Preceding 5 Years. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | WEEKS. | | | | | MONTHS. | | | | | YEARS. | | | | | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0-1 | 1-2 | 2-3 | 3-4 | 4 | 0-1 | 1-2 | 2-3 | 3-4 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111</ |

* This column includes all deaths in preceding columns.

TABLE IV. (A).—ABERDEEN.—INFANT MORTALITY.—Years 1901-1911.

(Corrected for transferred deaths since 1904.)

| YEAR. | No. of Births. | Births per 1,000 of Population. | Deaths of Infants under 1 year. | Deaths of Infants under 1 year per 1,000 Births. | No. of Survivors. | Survivors per 1,000 of Population. | No. of Deaths among Children Dying under 1 Year of Age from Chief Causes. | | | | | | | | | No. of Deaths from All Causes at Ages | |
|-----------------------------------|----------------|---------------------------------|---------------------------------|--|-------------------|------------------------------------|---|--|---------------------------|---------------|----------|-----------------|-------------|----------------|--------------|---------------------------------------|----------------------------|
| | | | | | | | Prematurity and Congenital Defects. | Dis. of Digest. System, Wasting and Debility, Convulsions. | Bronchitis and Pneumonia. | Tuberculosis. | Measles. | Whooping Cough. | Diphtheria. | Scarlet Fever. | Suffocation. | Under 1 Week. | Above 1 and under 4 Weeks. |
| 1911 | 4057 | 24·5 | 563 | 139 | 3494 | 21·1 | 100 | 177 | 93 | 21 | 44 | 45 | 4 | 1 | 6 | 108 | 74 |
| 1910 | 4319 | 26·2 | 478 | 111 | 3841 | 23·3 | 136 | 181 | 75 | 12 | 3 | 8 | 7 | 0 | 5 | 112 | 63 |
| 1909 | 4518 | 27·5 | 671 | 149 | 3847 | 23·4 | 172 | 194 | 133 | 22 | 7 | 56 | 5 | 0 | 7 | 130 | 114 |
| 1908 | 4472 | 27·3 | 577 | 129 | 3895 | 23·8 | 119 | 191 | 98 | 20 | 30 | 34 | 2 | 1 | 7 | 85 | 79 |
| 1907 | 4502 | 27·6 | 561 | 125 | 3941 | 24·2 | 143 | 175 | 108 | 18 | 12 | 45 | 4 | 2 | 7 | 101 | 86 |
| 1906 | 4712 | 29·0 | 599 | 127 | 4113 | 25·3 | 148 | 201 | 84 | 21 | 29 | 29 | 3 | 1 | 8 | 123 | 76 |
| Average 1906-1910 . | 4505 | 27·5 | 577 | 128 | 3927 | 24·0 | 144 | 188 | 100 | 19 | 16 | 34 | 4 | 0·8 | 7 | 110 | 84 |
| 1905 | 4892 | 30·3 | 678 | 138 | 4214 | 26·1 | 153 | 255 | 132 | 19 | 12 | 16 | 3 | 0 | 8 | 108 | 85 |
| 1904 | 4885 | 30·5 | 733 | 151 | 4152 | 25·9 | 146 | 254 | 131 | 32 | 28 | 66 | 3 | 0 | 5 | 125 | 97 |
| 1903 | 4986 | 31·5 | 675 | 135 | 4311 | 27·2 | 135 | 239 | 116 | 24 | 51 | 18 | 1 | 1 | 7 | 118 | 80 |
| 1902 | 4814 | 30·8 | 657 | 137 | 4157 | 26·6 | 133 | 209 | 124 | 23 | 10 | 59 | 6 | 0 | 11 | 118 | 92 |
| 1901 | 4784 | 31·0 | 727 | 152 | 4057 | 26·3 | 117 | 277 | 142 | 34 | 25 | 10 | 1 | 0 | 9 | 115 | 91 |
| Average 1901-1905 . | 4872 | 30·8 | 694 | 143 | 4178 | 26·4 | 137 | 247 | 129 | 26 | 25 | 34 | 2·8 | 0·2 | 8 | 117 | 89 |
| Average ten years—1901-1910 . . . | 4688 | 29·2 | 636 | 135 | 4053 | 25·2 | 140 | 218 | 114 | 23 | 21 | 34 | 3·4 | 0·5 | 7 | 114 | 86 |

The number of notifications (188) received after seven days, together with 35 cases in which no notification was ever received, compares favourably with the corresponding numbers of 292 and 43 for the preceding year, and shows that the notifications under the Act are gaining considerably in completeness.

The table further shows that the notification was received from the parents in almost one-fourth of all the births; in nearly one-half, or, more accurately, 46 per cent., from the medical attendant; in fully one-fifth, or 22 per cent., from the midwife or nurse; and, in the remainder, from more than one of these. In the preceding year, the proportion notified by the parents was about one-third; by the medical attendant, 43 per cent.; and by the midwife or nurse, 15 per cent. The proportion notified by the medical attendant or midwife or nurse has, therefore, increased considerably, and points to doctors and nurses being more willing than previously to co-operate freely in working the Act.

The following table gives the number of infants visited and, in selected cases, supervised by the three Health Visitors of the Corporation appointed for the purpose of dealing with infants and with domestic cleanliness. The table shows that the Health Visitors called during the year at the homes of 2,839 infants, or between two-thirds and three-fourths of all the children born in the City. These visits were, as usual, mostly confined to the smaller houses, that is, houses of one to three rooms. There was a slight falling-off in the percentage of breast-fed infants among the infants visited, as compared with the preceding year. The proportion of breast-feeding (whole or part) was, however, high, amounting to 90 per cent. in one-roomed houses; 85 per cent. in two-roomed houses; and 80 per cent. in houses of three rooms and upwards. Previous investigations—as also a special investigation during last year and reported in the Appendix—extending over all births within the City show that the proportion of breast-feeding diminishes with the rise of the mothers in the social scale. The percentage of breast-feeding in the total cases visited by the Health Visitors during the year was 84, as against 86 in the preceding year, and 83 in 1909.

ABERDEEN.—INFANTS VISITED BY HEALTH VISITORS—1911.

| SIZE OF HOUSE. | St. Nicholas. | St. Machar (incl. E. Peterculter). | Nigg (Torry). | Wood-side. | Old Aberdeen | Total. | Breast-fed. | Hand-fed. | Percentage of Breast-fed in total Infants Visited. | |
|----------------------|---------------|------------------------------------|---------------|------------|--------------|--------|-------------|-----------|--|-------|
| | | | | | | | | | 1911. | 1910. |
| 1-Roomed . . | 233 | 111 | 24 | 7 | 1 | 376 | 338 | 38 | 90 | 91 |
| 2-Roomed . . | 735 | 646 | 218 | 84 | 24 | 1,707 | 1,454 | 253 | 85 | 86 |
| 3-Roomed and upwards | 304 | 298 | 93 | 49 | 12 | 756 | 606 | 150 | 80 | 83 |
| ALL HOUSES, 1911 | 1,272 | 1,055 | 335 | 140 | 37 | 2,839 | 2,398 | 441 | 84 | — |
| All Houses, 1910 | 1,287 | 743 | 288 | 107 | 30 | 2,455 | 2,113 | 342 | — | 86 |

The Health Visitors, in addition to visiting the homes of infants and giving instructions to mothers in regard to the care and especially the feeding of the infants, devoted an appreciable part of their time in assisting in the work of the Mothers' and Babies' Clubs. They gave a series of lectures at these Clubs, being assisted in the lecturing by Mrs. Livingston, who undertook, as formerly, instruction in cooking.

It is of interest to note that, of the 2,839 cases visited, a medical man had attended the confinement of the mother in 1,601 cases, and that in 911 cases the confinement had been conducted by a midwife or nurse. In 180 cases attendance was received in connection with the outdoor department of the Maternity Hospital, while in 139 cases the mother gave birth to her child within the Maternity Hospital itself. In 8 of the cases attended by midwives, the assistance of a medical practitioner was obtained by the midwife on account of difficulty in the confinement.

In the outlying districts of the City, such as Woodside and Torry, the proportion of cases of confinement attended by a medical practitioner was much higher than in the middle of the City, being, for example, 82 per cent. in Torry and 87 in Woodside, as against 51 per cent. for all the remaining cases visited.

Among the mothers of legitimate children, poverty, as usual, contributed largely to the condition of the mother in those cases where her health was found to be defective and unsatisfactory. It was, however, found that, although several hundreds of mothers belonged to this category, the health and nutrition of their babies was satisfactory in nearly nine-tenths of the cases. The Association for Improving the Condition of the Poor, and similar organisations, were of great help in the assistance of many of these poorer mothers, but even after the aid derivable from these sources had been fully exhausted, there was still large room for further help. The Managers of the Soup Kitchen have supplied gratuitously for several years the Health Visitors with many hundreds of tickets for soup and other food, for distribution among the poorer mothers. This help has been of great use to many of these mothers. The Mothers' and Babies' Clubs, especially the Central Club, have also expended a considerable sum in providing milk for the more needful mothers.

There cannot be any doubt that, although the efforts of the Health Visitors are not in every year made evident by a reduction in the infant mortality, the educational effect is of great and growing value. On the whole, there has been a substantial fall in the infant mortality since Health Visitors were first appointed about eight years ago. The somewhat high mortality rate for last year was due, as has already been explained, to an exceptional prevalence of measles and whooping cough, the deaths from which accounted for more than the whole of the increase of mortality as compared with the preceding year, when the rate was the lowest so far recorded.

In connection with the work of the Health Visitors, I have, as usual, to acknowledge the large and important help received from the ladies who manage the Mothers' and Babies' Clubs and from the ladies who take part in

voluntary visitations. There were 30 such voluntary visitors during the year. Not only are the Clubs and the voluntary visitors undertaking a large amount of active personal work, but their presence in the movement for the bettering of the conditions of infant life is a great stimulus and encouragement to the Public Health Department. They have strengthened the element of human interest, in which purely official work may come after a time to be deficient; although it is only right to say that the work of the official Visitors has so far been attended by great sympathy with the women and children visited, and with a large amount of heartfelt interest in their welfare.

The work of these Clubs has been fully described in previous reports, and nothing fresh remains to be stated beyond the important fact that early in the year the Central Club, which had previously been carrying on the work alone, was joined in its work by another Club formed in Woodside, of which Mrs. Dickson is president. This Club, although in a less populous district, is situated in a suitable locality for the visitation of infants, as the surrounding community is composed mainly of working-class people. The Club is being conducted with much spirit and interest, and promises to have a most useful career.

I have in earlier reports expressed the desire to see branch Clubs established in other parts of the City as well as at the centre and at Woodside, and I am glad to be able to state that shortly after the close of 1911 two other Clubs have been started—one in Old Aberdeen and the other at Footdee, both of them in association with the parent Central Club, but each with its own Committee of Management and, for the most part, with its own funds.

Hitherto, the Central Club has carried on its work without any financial assistance from the Town Council, but during the year the Council were pleased to make a grant of 15 guineas on an application from the Central Committee. It is expected that the grant will be continued annually. It could with much advantage be increased to at least £50. The funds of the Club are managed with great economy by the ladies in charge, and there is no fear of the money being wrongly used or given to unsuitable persons. A large part of the Town Council's grant in 1911 was expended on milk for the feeding of mothers and babies.

The use of the sterilising can, to which I made reference in the report for the preceding year, is being urged by the Health Visitors and by the Clubs in order to secure that the milk used for feeding infants will not contain any live deleterious germs, such as those that are frequently accountable for diarrhoeal troubles. The cans are lent to mothers who are unable to pay for them, and are sold to other mothers at cost price, namely, 1s. 3d. for can and measure. Tubeless feeding bottles of a cheap but efficient kind are also supplied by the Public Health Department to the poorer mothers, and sold at cost price to those who can afford to pay for them. The Town Council, in the preceding year, made a grant of £20 for the gratuitous supply of sterilising cans to poorer mothers.

It has been frequently stated that sterilised milk forms an unsatisfactory food for infants. It is not uncommon to find doctors who hold this view. It is

important to note that an exhaustive inquiry recently carried out at the instance of the Local Government Board of England shows that sterilised milk is not harmful to babies and that it is quite as nutritious as raw milk, and possesses the great advantage of being free from germs. It is, of course, not to be preferred at any time to the milk of a healthy mother, but it is distinctly preferable to ordinary dairy milk. The inquiry referred to brings out the interesting fact that while the milk of the mother is more easily digested by the infant raw rather than boiled, the reverse is true of the milk of a lower animal when supplied to the infant.

I cannot leave the subject of the relation of the Mothers' and Babies' Clubs to the work of the Public Health Department without reference to the invaluable assistance I have personally received in the direction of the work of the department relating to infant management from the ladies who manage the Clubs, and particularly from Mrs. G. B. Esslemont, whose assiduity and enthusiasm in the work are beyond praise. I have also been much indebted to Dr. Smart, who acts as Honorary Medical Adviser to the Central Club, and to Dr. Clark, who occupies the same position in relation to the Woodside Club.

I would wish to repeat what I have frequently stated in these reports that, in view of the high infantile mortality rate in our City and the degree of ignorance which it reveals among mothers regarding the proper care of their babies, it is imperative that means should be devised for instructing, in continuation classes, girls in infant hygiene, and, indeed, in housewifery in general. Technical training in housewifery is as pressingly needed for girls as is technical training in industries for boys, the more that owing to the larger employment nowadays of girls and young women in work other than domestic work, many girls begin married life with the crudest notions of their duties.

Mortality at "Pre-School" Age-Period (1 to 5 years), excluding "Infant" Period.—The number of deaths at these ages during 1911 was distinctly higher than usual, being 285, equivalent to a death-rate of 19.1 per 1,000 of the population at this age, as against 167 in the preceding year, and an average of 249 in the preceding five years. The increase was entirely due to the large number of deaths from measles and whooping cough, arising from the heavy epidemics of these diseases in the later months of the year. From nearly all other causes the deaths at this age-period were under the average. In order to assist in diminishing the number of deaths from measles amongst children under five years of age, one of the large pavilions at the City Hospital was made available during the epidemic for the reception of cases among such children. The patients admitted were mainly under three years of age, and preference was given to children from the poorer homes of the City. A nurse was also specially appointed by the Public Health Department for visiting cases in their own homes.

In the report for the preceding year I took occasion to congratulate ourselves on a considerable reduction in the number of deaths from burns and scalds among children under five years of age, and attributed it to the operation of the Children

Act, which compels the provision of fireguards. I regret, however, to have to direct attention to the fact that during 1911 there were 10 deaths from burns and scalds among children of these ages, as against 6 in the preceding year, and an average of 10 in the preceding five years. In this connection it is proper to state that the Health Visitors and the voluntary visitors have been at considerable pains in the visitation of infants to draw the attention of mothers to the requirements of the Children Act in respect of fireguards, and have also informed mothers where cheap fireguards could be procured. Great difficulty is being experienced in enforcing this part of the Act, in view of the fact that no prosecution can be begun unless a child has been burned as the result of the absence of a fireguard. Naturally, there is some hesitation in bringing parents into Court when they have already endured the agony of seeing their child suffer from the most painful of injuries.

Mortality at "School" Age-Period (5 to 15 years).—The mortality at this age-period (3·1 per 1,000 of population at the particular age) is slightly higher than that for the preceding year, which was 2·9, and higher also than the average for the preceding five years, which was likewise 2·9. It is, however, only one-third of the rate in the first five years of registration. This rate has shown little tendency to alter during the last ten years. Its slight fluctuations up and down are almost entirely due to changes in zymotic prevalence. In 1911, as already stated, measles, whooping cough, and scarlet fever were unusually abundant.

The work of the medical staff of the School Board is being developed on excellent lines, and cannot fail to have an appreciable effect on the health of children of the school age. It may not always be reflected in a diminution of the death-rate, but it will be shown in the greater attention given to the removal of many minor ailments that retard development and depreciate health, although not necessarily fatal.

Full reference was made last year to the cleansing of verminous children and households that is being undertaken jointly by the Town Council and the School Board. The arrangements worked quite satisfactorily during the year, and is proving of undoubted service in raising the standard of cleanliness not only among school children but in the households of these members of the community who have hitherto been inclined to be careless in the matter of household cleanliness. During the year, the inmates, together with the clothing and bedding, of 104 households were removed to the Cleansing Station of the Public Health Department for cleansing and disinfection. The house itself was thoroughly cleansed and disinfected, while the clothing and bedding were sterilised in the steam disinfector, and each inmate was given a bath. The services of one inspector are exclusively employed in the visitation of families in the school children of which the school medical staff have found indications of uncleanness. In addition to the inspector, a married couple are employed at the Cleansing Station for the work carried on there.

In connection with the destruction of body vermin in houses, I have recently prepared the following set of instructions:—

PUBLIC HEALTH DEPARTMENT—CITY OF ABERDEEN.

Instructions for Destroying Fleas, Bugs, and Lice in Rooms.

1. *Bedding and Clothing.*—Such articles as can be boiled should be boiled for half an hour. The other articles should be sent to the Disinfecting Station, City Hospital, for disinfection by steam.

2. *Walls, Bedsteads, and Woodwork* may be fumigated with burning sulphur. The chimney vent and all openings should previously be closed. Three pounds of flowers of sulphur should be used for a room of ordinary size, and should be burned in two separate pans or pots simultaneously— $1\frac{1}{2}$ lbs. in each pan—placed over a basin or pail of water to prevent danger from fire. The room should be kept closed for at least three hours. The fumigation will do no harm to wallpaper or furnishings.

In place of fumigation with sulphur, or, in bad cases, in addition and subsequent to fumigation, the following *insecticide mixture* may be tried. It should be applied freely with a mop or large brush to the walls and woodwork harbouring the insects, and should be well brushed into all seams and crevices. Thus applied, it is often very effective. The mixture is made by dissolving half a pound of soft soap in $\frac{1}{4}$ gallon* of hot water, adding four ounces of cyllin (or izal or bacto) and 4 ounces of paraffin oil. Stir thoroughly until well mixed, then add sufficient hot water to make the total quantity of the mixture up to a gallon. Brush the mixture on while still warm.

MATTHEW HAY, M.D.,

Medical Officer of Health.

* An ordinary quart bottle and an ordinary pint bottle contain together almost exactly $\frac{1}{4}$ gallon.

It is desirable, as I have previously reported, that the system of medical inspection instituted by the School Board should be extended to all the schools in the City, whether private or public. There are several schools of considerable size conducted in connection with certain religious bodies, in addition to a number of small private schools, that stand as much in need of medical inspection as do the Board schools of the City. It is obviously unsatisfactory that any of these schools, and more especially those that are receiving Government grants, should not be submitted to a system of medical inspection. If such inspection is beneficial for one class of school it will be equally beneficial for the other.

It is very satisfactory to find that the attention of the School Board is now being directed to the provision of clinics as well as to the mere inspection of children. The full advantage of school medical inspection cannot be obtained until there is considerable provision for ensuring treatment for the defects discovered by inspection.

I have in several of my reports for preceding years spoken of the advantages of natural cross ventilation for schools, as compared with mechanical ventilation.

Mechanical ventilation for schools and similar places has had its vogue here as elsewhere for a considerable number of years, and is certainly an improvement on natural ventilation in many of the buildings as they are constructed; but there is a rapidly growing feeling that natural ventilation, especially in the form of cross ventilation, which can be obtained practically only when a room is open on both sides, is distinctly preferable to artificial ventilation, and provides a more healthy and pleasant atmosphere. The main fault of natural ventilation in former years was that it was too limited in amount, and that the openings provided for it were too small and led to the impingement of rapid currents of cold air in the form of draughts on the bodies of the inmates of rooms within their range. The proper way to avoid draughts is to have large openings—practically open windows. This implies, of course, that the temperature of the room cannot be regulated in cold weather so as to maintain the equable temperature of 55 to 60 deg. so often prescribed in the past for schools and similar institutions; but we have now begun to realise that equability of temperature is of less consequence than purity of atmosphere. There is no more likely source of colds and chills than passing suddenly from the atmosphere of a warm and ill ventilated room to the cold atmosphere of a wintry day, but it must not be forgotten that, if the temperature of the atmosphere is to be disregarded as it is now coming to be in hospitals, provision must be made for the adequate clothing of those occupying the rooms. Thus protected, neither children nor adults, healthy people nor sick people, need, as a rule, dread cold or its effects. In the tuberculosis wards of the City Hospital, where there is practically no heating, even in midwinter, and where the windows are kept constantly open from top to bottom, catarrhs are almost unknown.

Year in and year out I have directed attention in these reports to the insufficiency of the provision in the City for play and recreation grounds for children. Young children cannot be expected to go far from their homes to playgrounds. Playgrounds, therefore, should be dotted all over the City. It is admittedly difficult to secure such grounds in the older parts of the town, except when some improvement scheme for the demolition of worn-out property gives an opportunity for providing an open space. Advantage was recently taken of such an opportunity in the scheme for the widening of the Gallowgate, and has proved a great boon to the children living in this central and crowded part of the City. It is, however, especially regrettable that in the newer parts of the town practically no provision is being made for children's playgrounds, apart from those attached to the public schools. If a town planning scheme were taken in hand under the Act of 1909, the provision of such playgrounds, as also of small parks, should form a necessary and important feature.

I have again to express the thanks of the Public Health Department to those ladies and gentlemen in the City who provide a holiday in the country for a large proportion of the poorer and more ailing children of the City. There are few philanthropic schemes connected with the City that offer more advantages to the public health than the Children's Fresh Air Fortnight, with its Home at Linnmoor, and the Aberdeen Camp for Ailing Children at Scotston Moor. Such agencies come

in at the right time in preventing children becoming really ill. It is always more easy to prevent ill-health than to cure it. During 1911, 795 children were sent to the Homes at Linnmoor and Scotston. The children are usually kept for a fortnight in the Homes, each of which is placed on a rough moor in the best of good air, and the more sickly children are kept for longer periods. They are comfortably housed and well fed, and the Committees of Management take great personal interest in providing for the well-being and entertainment of the children during the holiday. Nothing is more pleasing than a visit to these Homes. Visitors are always welcomed, and rarely leave without making a contribution to the funds of the Homes. The Home at Linnmoor has added to its valuable summer services by making provision during the winter for children of the pre-tuberculous type. This is proving of great assistance to the Public Health Department in dealing with tuberculous families, and is an invaluable addition to the work being undertaken by the Department in connection with the prevention of tuberculosis. The work of the Homes is being carried on with remarkably little cost, the maintenance of each child costing only about three or four shillings weekly. Much of the services required in connection with conducting the Homes is given gratuitously. These Homes are mainly doing the work that is being provided for largely by State help in Germany, in the form of so-called Forest Homes, which are usually open only during the summer. It would be an advantage, if the funds were adequate, to keep these Homes open for a somewhat longer time during the summer, and especially to extend the work that is being done at Linnmoor during the winter. The School Board have been utilising with much advantage the Linnmoor Home for ailing school children, and are paying the whole cost of their maintenance. The Homes have, I think, a distinct claim not only upon private charity but upon some support from the rates.

Many poor children receive much benefit from the feeding provided for them during the winter months by the School Board from the funds previously in charge of the Educational Trust, and, partly, from voluntary subscriptions. During the winter of 1911-12, for a period of about four and a half months, the Children's Care Committee of the School Board provided out of the voluntary subscriptions—amounting to about £71—23,699 dinners to an average daily number of 294 children, distributed over four centres. The cost of each dinner was surprisingly small, being slightly under 3d., and this included the cost of service as well as of food. The Trust funds went to the most necessitous of the children, who, at a fifth centre, received two meals daily (breakfast and dinner) over the whole school session of ten months, the average attendance being 269 at breakfast and 308 at dinner. There was also a sixth centre at Woodside, where during the same period dinners were supplied to an average of 46 children daily.

As underfeeding is, unfortunately, a common feature of school life among the poorer children, the value of the efforts of the Children's Care Committee in assisting the nutrition of the children, and preventing that lowering of vital resistance that lends itself to the onset of many diseases, including tuberculosis, cannot be placed too highly in any public scheme for dealing with the health of the young.

*Mortality at the "Adolescent" Age-Period (15 to 25 years).—*The death-rate at this period during the year (3·9 per 1,000 of the population at this age) is, like that at the earlier periods, higher than in the immediately previous years, although scarcely more than one-third of what it was at the commencement of civil registration. The increase since the preceding year, when the rate was 3·3, was mainly in diseases of the digestive system and of the circulatory system, and also in deaths from accident.

This is the period of life in which pulmonary tuberculosis tends to make itself manifest, and it is, therefore, of great importance that the conditions under which persons of this age carry on their work, whether in an office or in a workshop, should be such as to secure for them an abundance of fresh air. The ventilation of factories and workshops throughout the City is under constant supervision, not only by the staff of the Sanitary Department, but also by the Factory Inspector, who takes a keen interest in this matter. The means of ventilation are usually considerable, the difficulty is in securing proper attention to these means by the occupants of the workshops. As I have stated in previous reports, the better ventilation of offices is a more pressing question at present than the ventilation of workshops. Less attention has been given in the past to offices, and the legal power for dealing with them is less explicit. A minimum of cubic space is prescribed under the Factory and Workshops Act for each inmate of a workshop or factory, but no minimum is anywhere laid down for offices, although it is to be presumed that the minimum requirement for dwelling-houses—which is also lacking in definition in the Public Health Act—could be applied to offices.

The mortality from phthisis among the occupants of offices is considerably in excess of that among persons of the same age in ordinary workshop occupations.

I would draw attention once more to the advantages that would accrue, particularly to workers in offices, by the adoption of the principles of the Daylight Saving Bill. Personally, I favour the adoption of the Bill by Parliament, and its application throughout the whole country, although there are obvious difficulties in so radical a change. There is, however, no reason why, in a single community like that of Aberdeen, without any alteration of the hands of the clock as proposed in the Bill, the heads, especially of offices, should not arrange for commencing the day's work an hour earlier in the summer months, thus allowing the young men and women to leave the office an hour sooner in the afternoon or evening. This would give a substantial increase of time for open-air recreation, which is essential to the health of those engaged in sedentary occupations. The advantage of this arrangement would be most appreciated in the early part of summer, and in autumn, when the days are shorter. It should begin in April, and close at the end of September. We have had this arrangement in the Public Health Department for two years, and it has been much appreciated by the staff.

*Mortality at the "Early-Mature" Age-Period (25 to 45 years).—*The mortality at this period has not in previous reports been distinguished from that of the "late-mature" period, the two being taken together, but the statistical requirements of the Local Government Board necessitate the dividing of the group. It

TABLE V.—ABERDEEN.—MORTALITY AT VARIOUS AGE-PERIODS FROM VARIOUS CAUSES.

(Corrected for transferred deaths.)

| Age. | ALL CAUSES. | Zymotic Diseases. | | | Tuberculous Diseases. | | Respiratory Diseases. | | | Diseases of Circulatory System. | Diseases of Genito-Urinary System. | Nervous Diseases. | | Dis. of Digest. Syst. incl. Diarrhoea. | Malignant Diseases. | Developmental Diseases (ex. old age). | Accident and Violence. | Debility, Atrophy, Inanition. | | Miscellaneous. | |
|--------------------------------|-------------|-------------------|-----------|---------|-----------------------|--------------------|-----------------------|-------------|--------------------|---------------------------------|------------------------------------|------------------------------------|--------------|--|---------------------|---------------------------------------|------------------------|-------------------------------|----------------------|----------------|-----------------------|
| | | Ordinary. | Venereal. | Septic. | Phthisis. | Other Tuberculous. | Pneumonia. | Bronchitis. | Other Respiratory. | | | Cerebral Haemorrhage & Hemiplegia. | Convulsions. | | | | | Other Nervous. | Under age of 1 year. | | Above age of 3 years. |
| A.—NUMBER OF DEATHS—YEAR 1911. | | | | | | | | | | | | | | | | | | | | | |
| Under 1 year, | 563 | 97 | 14 | 0 | 1 | 20 | 54 | 39 | 2 | 0 | 1 | 0 | 31 | 9 | 63 | 0 | 110 | 6 | 91 | ... | 25 |
| 1—5 years, | 285 | 130 | 0 | 1 | 6 | 30 | 40 | 10 | 4 | 0 | 1 | 0 | 12 | 7 | 18 | 0 | 0 | 13 | ... | ... | 13 |
| 5—15 „ | 115 | 21 | 0 | 1 | 14 | 16 | 8 | 1 | 2 | 6 | 2 | 0 | 3 | 9 | 11 | 1 | 0 | 5 | ... | ... | 15 |
| 15—25 „ | 122 | 5 | 1 | 1 | 54 | 2 | 6 | 0 | 0 | 11 | 2 | 0 | 0 | 4 | 10 | 2 | 0 | 13 | ... | ... | 11 |
| 25—45 „ | 253 | 5 | 0 | 3 | 62 | 6 | 16 | 5 | 4 | 29 | 19 | 6 | 0 | 15 | 16 | 13 | 0 | 16 | ... | ... | 38 |
| 45—65 „ | 476 | 7 | 1 | 6 | 51 | 2 | 23 | 26 | 11 | 105 | 30 | 40 | 0 | 24 | 29 | 78 | 0 | 21 | ... | ... | 22 |
| 65+ „ | 698 | 7 | 1 | 2 | 4 | 3 | 34 | 64 | 13 | 160 | 33 | 95 | 0 | 11 | 37 | 81 | 0 | 8 | ... | 96 | 49 |
| ALL AGES, | 2512 | 272 | 17 | 14 | 192 | 79 | 181 | 145 | 36 | 311 | 88 | 141 | 46 | 79 | 184 | 175 | 110 | 82 | 91 | 96 | 173 |

A.—NUMBER OF DEATHS—YEAR 1911.

| | | | | | | | | | | | | | | | | | | | | | |
|---------------|------|-----|----|----|-----|----|-----|-----|----|-----|----|-----|----|----|-----|-----|-----|----|-----|-----|-----|
| Under 1 year, | 563 | 97 | 14 | 0 | 1 | 20 | 54 | 39 | 2 | 0 | 1 | 0 | 31 | 9 | 63 | 0 | 110 | 6 | 91 | ... | 25 |
| 1-5 years, | 285 | 130 | 0 | 1 | 6 | 30 | 40 | 10 | 4 | 0 | 1 | 0 | 12 | 7 | 18 | 0 | 0 | 13 | ... | ... | 13 |
| 5-15 " | 115 | 21 | 0 | 1 | 14 | 16 | 8 | 1 | 2 | 6 | 2 | 0 | 3 | 9 | 11 | 1 | 0 | 5 | ... | ... | 15 |
| 15-25 " | 122 | 5 | 1 | 1 | 54 | 2 | 6 | 0 | 0 | 11 | 2 | 0 | 0 | 4 | 10 | 2 | 0 | 13 | ... | ... | 11 |
| 25-45 " | 253 | 5 | 0 | 3 | 62 | 6 | 16 | 5 | 4 | 29 | 19 | 6 | 0 | 15 | 16 | 13 | 0 | 16 | ... | ... | 38 |
| 45-65 " | 476 | 7 | 1 | 6 | 51 | 2 | 23 | 26 | 11 | 105 | 30 | 40 | 0 | 24 | 29 | 78 | 0 | 21 | ... | ... | 22 |
| 65+ " | 698 | 7 | 1 | 2 | 4 | 3 | 34 | 64 | 13 | 160 | 33 | 95 | 0 | 11 | 37 | 81 | 0 | 8 | ... | 96 | 49 |
| ALL AGES, | 2512 | 272 | 17 | 14 | 192 | 79 | 181 | 145 | 36 | 311 | 88 | 141 | 46 | 79 | 184 | 175 | 110 | 82 | 91 | 96 | 173 |

B.—DEATH-RATE PER 100,000 OF POPULATION AT EACH AGE—YEAR 1911.

| | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------|------|-----|-----|-----|-----|------|------|-----|------|-----|------|-----|-----|------|-----|------|-----|------|------|-----|
| Under 1 year, | 15262 | 2629 | 380 | 0 | 27 | 542 | 1464 | 1057 | 54 | 0 | 27 | 0 | 840 | 244 | 1708 | 0 | 2982 | 163 | 2467 | ... | 678 |
| 1-5 years, | 1908 | 870 | 0 | 7 | 40 | 201 | 268 | 67 | 27 | 0 | 7 | 0 | 80 | 47 | 120 | 0 | 0 | 87 | ... | ... | 87 |
| 5-15 " | 314 | 57 | 0 | 2.7 | 38 | 44 | 22 | 2.7 | 5 | 16 | 5 | 0 | 8 | 25 | 30 | 2.7 | 0 | 14 | ... | ... | 41 |
| 15-25 " | 386 | 16 | 3.2 | 3.2 | 171 | 6 | 19 | 0 | 0 | 35 | 6 | 0 | 0 | 13 | 32 | 6 | 0 | 41 | ... | ... | 35 |
| 25-45 " | 570 | 11 | 0 | 7 | 140 | 14 | 36 | 11 | 9 | 65 | 43 | 14 | 0 | 34 | 36 | 29 | 0 | 36 | ... | ... | 86 |
| 45-65 " | 1879 | 28 | 3.9 | 24 | 201 | 8 | 91 | 103 | 43 | 415 | 118 | 158 | 0 | 95 | 115 | 308 | 0 | 83 | ... | ... | 87 |
| 65+ " | 7905 | 79 | 11 | 23 | 45 | 34 | 386 | 726 | 147 | 1815 | 374 | 1077 | 0 | 125 | 420 | 919 | 0 | 91 | ... | 1089 | 556 |
| ALL AGES, | 1519 | 164 | 10 | 8 | 116 | 48 | 109 | 88 | 22 | 188 | 53 | 85 | 28 | 48 | 111 | 106 | 66 | 50 | ... | ... | 105 |

C.—DEATH-RATE PER 100,000 OF POPULATION AT EACH AGE—AVERAGE FOR TEN YEARS—1901-1910.

| | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------|------|-----|-----|-----|-----|------|------|-----|------|-----|------|------|-----|------|-----|------|-----|------|------|-----|
| Under 1 year, | 16024 | 1572 | 302 | 84 | 48 | 526 | 1306 | 1475 | 249 | 33 | 43 | 43 | 1236 | 415 | 2433 | 10 | 3032 | 225 | 2437 | ... | 557 |
| 1-5 years, | 1763 | 562 | 6 | 3.5 | 36 | 251 | 282 | 114 | 40 | 6 | 7 | 4.6 | 73 | 83 | 140 | 3.4 | 14 | 71 | ... | ... | 68 |
| 5-15 " | 295 | 40 | 0.3 | 3.4 | 39 | 66 | 17 | 4.1 | 5 | 22 | 7 | 0.3 | 3.4 | 21 | 25 | 1.1 | 1.4 | 20 | ... | ... | 18 |
| 15-25 " | 405 | 16 | 0.6 | 9 | 166 | 34 | 24 | 2.5 | 9 | 32 | 11 | 2.1 | 0.3 | 21 | 29 | 4.6 | 0.6 | 18 | ... | ... | 27 |
| 25-45 " | 722 | 17 | 1.9 | 25 | 199 | 23 | 57 | 14 | 13 | 85 | 33 | 12 | 0.2 | 51 | 41 | 4.2 | 0.2 | 46 | ... | ... | 62 |
| 45-65 " | 2043 | 43 | 1.7 | 19 | 146 | 15 | 139 | 136 | 55 | 397 | 116 | 177 | 1.3 | 125 | 127 | 308 | 0 | 74 | ... | ... | 163 |
| 65+ " | 8376 | 176 | 1.2 | 52 | 65 | 15 | 339 | 1020 | 167 | 1638 | 404 | 1006 | 3.7 | 289 | 443 | 726 | 0 | 156 | ... | 1366 | 510 |
| ALL AGES, | 1625 | 123 | 9 | 17 | 124 | 67 | 121 | 125 | 31 | 180 | 51 | 83 | 39 | 71 | 138 | 95 | 77 | 52 | ... | ... | 93 |

will be observed from Table III. that the death-rate at the "early-mature" period during 1911 was 5·7 per 1,000 of the population at this period, and was the lowest on record. This death-rate has been showing a large declension since the earlier years of registration, being less than one-half of what it was. The decline has been well marked within the last three years, the rate having fallen from 7·4 in 1908 to the figure stated for 1911. The remarks already made in regard to the sanitary condition of workshops and offices are equally applicable to this period.

*Mortality at the "Late-Mature" Age-Period (45 to 65 years).—*The mortality at this period shows less decline than at the preceding periods. During the past fifty years it has fallen only by about one-seventh. It was 18·8 per 1,000 of the population at the age-period during 1911. This shows a very slight increase, as compared with the previous year, when it was 18·7, but is under the rate for 1908 and 1909, when it stood above 21.

*Mortality at the "Post-Mature" Age-Period (65 years and upwards).—*The death-rate at this age-period (79·1 per 1,000 of the population at the period) is considerably under that of the preceding year, when, however, the rate reached one of the highest on record within recent years, being 89·2. The death-rate at this period has, in common with the death-rate at the earlier periods, shown some fall since the earlier years of registration, but there has been little or no decline during the past fifteen years, if we except the year 1911. On the contrary, there has been rather a tendency to an increase. This is to be expected at the highest age-period even in the healthiest of towns, and is, indeed, rather an indication of increasing than of decreasing longevity.

MORTALITY IN RELATION TO CAUSE.

(Tables IV., IV. (A), V., and VI.)

Tables IV., IV.(A), V., and VI. give details for the year, and afford also material for comparison with previous years.

With the commencement of 1911, there was begun, by the Registrar-General and by the Public Health Department, a modification of the previous system of classification of deaths, in order to bring the classification into accordance with the international classification that has been adopted by the governments of all the leading European countries, and also by the United States. It is impossible to construct a scientifically correct classification of deaths, the more not only because of difficulties in determining within which group or class certain causes of death are to be placed, but also because of the uncertainty attaching to the cause of death in many cases, as stated by medical men. Classifications are naturally of little value if the data upon which they are founded are in any measure inaccurate. As illustrative of the difficulties depending on proper choice of group, I may refer to a common cause of death among older persons, namely, cerebral apoplexy. Deaths from this cause were at one time classified with diseases of the brain and

nervous system, but for some years they have, by the Registrar-General, been placed within the group of diseases of the circulatory system, being regarded as due to degeneration of the blood vessels. In the international classification they are, however, placed in the nervous group. Cerebro-spinal fever, which has hitherto been classed by the Registrar-General with the group of infectious diseases, is in the international classification placed under diseases of the nervous system. This change, however, is so contrary to any recognisable principles guiding the classification that I have ventured, in this particular instance, in my own reports, to retain cerebro-spinal fever in its former place. Deaths from syncope and heart failure have hitherto formed a large part of the deaths from diseases of the circulatory system. They are, with considerable propriety, transferred in the international classification to the group of ill-defined causes; but this transference leads to a large reduction in the death-rate from the group of circulatory diseases. The group of diseases of special senses has been dissolved, and such diseases as those of the eye and ear now form part of the group of diseases of the nervous system. Some other changes will be referred to in dealing with the different groups of diseases later on, but these are sufficient to illustrate in a general way the nature of the changes. The one supreme advantage of the international classification is that it renders the vital statistics of one country properly comparable with those of others in which the classification has been adopted.

In order to make the figures for the year 1911 comparable with those of preceding years in the vital statistics of the City, we have, except in a few unimportant instances, readjusted and recalculated the groupings for preceding years in so far as they are compared with the year 1911. No exceptions, however, have been made in the readjustments for the preceding ten years.

All Ages.—The group of diseases producing the largest number of deaths at all ages was that of the respiratory system, which caused 362 deaths, as against 329 in the preceding year. Diseases of the circulatory system, from which group in the new classification there has now been dissociated apoplexy and hemiplegia, as also syncope and heart failure, caused 311 deaths, as against 343 in the preceding year. The ordinary zymotic diseases, which were more prevalent than usual during the year, occupied the third place, with 272 deaths. Tuberculous diseases came next, with 271 deaths, and were followed by diseases of the digestive system (including diarrhoea), with 184 deaths. Malignant diseases, chiefly cancer, accounted for 175 deaths. Cerebral hæmorrhage and hemiplegia caused 141 deaths, as against 155 in the preceding year. Diseases of the nervous system, including convulsions, accounted for 126 deaths; developmental diseases, for 110 deaths; and diseases of the genito-urinary system, for 88. Venereal diseases were stated as the cause of 17 deaths, as against 15 in the preceding year. Septic diseases caused 14 deaths. In 82 cases, or 7 fewer than in the preceding year, death was assigned to accident or violence. Of these, 16 were due to burns or scalds, 14 to accidental drowning, and 6 to suicide. Altogether, 187 deaths were ascribed to debility or atrophy, of which 91 were among children under one year and 96 among persons of sixty-five

years of age and upwards. Both of these figures are substantially higher, especially in the case of infants, than in the preceding year.

"Infant" Age-Period (under one year).—The chief cause of death at this period was prematurity, with 92 deaths (see Table IV.). In the preceding year, there were 108 deaths from this rather vague cause. Of these 92 deaths during the past year, 89 took place within the first month after birth. The next most important, and still more vague, cause of death was wasting and debility, which produced 85 deaths, as against 70 in the preceding year. Diseases of the digestive system (including diarrhœa) took the third place, with 63 deaths. In the preceding year, the number was 69. The deaths from pneumonia were 54, or only one more than in the previous year; but the deaths from bronchitis, which were 39, were considerably in excess of those for the previous year, namely, 22.

The most notable feature of the infant mortality during the past year was the large number of deaths from measles and whooping cough, namely, 44 from the former and 45 from the latter, or, altogether, 89. In the preceding year, only 11 deaths were attributed to these causes. There was also a distinct increase in the number of deaths ascribed to tuberculosis, there being 21 such deaths, as against 12 in the preceding year. The excessive prevalence of zymotic disease tends in its after-effects to intensify tuberculous conditions, and, therefore, to increase indirectly the death-rate from these conditions. Almost all diseases which in any measure debilitate the body have this effect on the death-rate from tuberculosis. From suffocation, there were 6 deaths, or one more than in the preceding year. The average number of deaths per annum from suffocation among infants during the past five years was 7. The deaths from suffocation among infants are nearly always confined to the first three months of infant life, and are usually distributed fairly equally over these months. It is rare as a cause of death after the third month. There were no deaths from burns or scalds.

"Pre-School" Age-Period (1 to 5 years).—The largest cause of death was measles, with 72 deaths. Whooping cough caused 32 deaths; diphtheria, 14 deaths; and scarlet fever, 8. In all, 129 deaths were due to zymotic disease. In the preceding year, the total number of deaths from such causes was only 30. Pneumonia also produced a considerable number of deaths during the year, namely, 40. In the preceding year, the number of deaths from this cause amounted to 37. Tuberculosis caused 50 deaths, as against 46 in the preceding year. Ten deaths were attributed to burns and scalds, as against 6 in the preceding year. Three deaths were attributed to other accidents.

"School" Age-Period (5 to 15 years).—In this, and especially the next, age-period, tuberculosis usually stands above all other diseases as a cause of death. During the past year, 30 deaths were ascribed to tuberculous disease among children of this age. In the preceding year, there were 24 deaths from this cause. Next to tuberculous disease came the ordinary zymotic diseases, with 21 deaths. Diseases of the nervous system produced 12 deaths, but this group of diseases in the new

classification includes diseases of the ear and eye. Diseases of the digestive system and diseases of the respiratory system each produced 11 deaths. There were 5 deaths from accident or violence, as against 7 in the preceding year, 3 of which were due to burns or scalds.

"Adolescent" Age-Period (15 to 25 years).—Of the 122 deaths at this period, 56, or nearly one-half, were due to tuberculous diseases, as against 61 in the preceding year. There was a marked decline in the deaths from tuberculosis other than the pulmonary form. Only 2 such deaths were registered during the year, as against 17 in the preceding year. Among other important causes of death at this age-period were diseases of the circulatory system, with 11 deaths, and diseases of the digestive system, with 10 deaths. In the case of each of these two groups of diseases, the deaths were considerably above the number in the preceding year. The deaths from accident and violence numbered 13, being 3 more than in the preceding year.

"Early-Mature" Age-Period (25 to 45 years).—Of the 253 deaths at this period, again the chief contributing cause was tuberculosis, with 68 deaths. Diseases of the circulatory system came next, with 29 deaths, followed by diseases of the respiratory system, chiefly pneumonia, with 25 deaths. There were 16 deaths from diseases of the digestive system and 15 from diseases of the nervous system. Of deaths due to accident there were 16.

"Late-Mature" Age-Period (45 to 65 years).—Of the 476 deaths at this age-period, the cause which bulked most largely was diseases of the circulatory system, with 105 deaths. Next came malignant diseases, chiefly cancer, with 78 deaths, followed by diseases of the respiratory system, with 60 deaths, and tuberculous diseases, with 53 deaths. At this age cerebral apoplexy begins to be a not uncommon cause of death, there being 40 deaths from this cause. Accident and violence were the cause of 21 deaths and zymotic disease of 7 deaths.

"Post-Mature" Age-Period (65 years and upwards).—Of the 698 deaths occurring at this age-period, 160 were certified as due to diseases of the circulatory system. This number is less than one-half of what it was stated for last year, but the fall is due mainly to a difference in the constitution of the circulatory group, arising from the adoption of the new classification. Next came diseases of the respiratory system, with 111 deaths; cerebral hæmorrhage and hemiplegia, with 95 deaths; and malignant diseases, with 81 deaths. A large number of deaths (96) were attributed to debility and old age. Accident and violence caused only 8 deaths, as against 16 in the preceding year.

VARIATIONS IN THE MORTALITY FROM SELECTED CAUSES SINCE 1856.

The variations in the mortality from selected causes at all ages since the year 1856—the second year of civil registration—can be conveniently followed in Table VI.

TABLE VI.—ABERDEEN.—DEATHS AT ALL AGES FROM SELECTED CAUSES
(per 100,000 of population).—Years 1856-1911.*

| Year. | Small-pox. | Scarlet Fever. | Diphtheria and Membr. Group. | Measles. | Whooping Cough. | Influenza. | Typhus Fever. | Typhoid Fever. | Tuberculous Diseases. | | Dis. of Digest. Sys. (incl. Diarrhoea). | Cancer and other Malignant Diseases. | Bronchitis. | Pneumonia. | Dis. of the Circul. Sys. (incl. Coronary Arteries, and Hemiplegia). |
|--------------------|------------|----------------|---------------------------------|----------|--------------------|------------|---------------|----------------|--------------------------|-----------------------|--|---|-------------|------------|---|
| | | | | | | | | | Phthisis. | Other Tuberculous. | | | | | |
| 1911, | 0 | 15 | 14 | 74 | 47 | 10 | 0 | 2 | 116 | 48 | 111 | 106 | 88 | 109 | 188 |
| 1910, | 0 | 4 | 21 | 2 | 10 | 16 | 0 | 1 | 110 | 51 | 105 | 97 | 92 | 93 | 208 |
| 1909, | 0 | 8 | 20 | 20 | 69 | 17 | 0 | 3 | 112 | 55 | 119 | 111 | 110 | 131 | 192 |
| 1908, | 0 | 9 | 12 | 41 | 33 | 33 | 0 | 0 | 113 | 63 | 117 | 109 | 102 | 125 | 182 |
| 1907, | 0 | 3 | 12 | 22 | 50 | 14 | 0 | 4 | 116 | 74 | 106 | 110 | 116 | 121 | 161 |
| 1906, | 0 | 4 | 12 | 44 | 41 | 18 | 0 | 2 | 129 | 74 | 127 | 88 | 106 | 111 | 159 |
| Average 1906-1910, | 0 | 6 | 15 | 26 | 42 | 20 | 0 | 2 | 116 | 63 | 115 | 103 | 105 | 116 | 180 |
| 1905, | 0 | 7 | 6 | 21 | 21 | 21 | 8 | 2 | 127 | 62 | 149 | 90 | 129 | 131 | 173 |
| 1904, | 0 | 13 | 7 | 59 | 93 | 8 | 5 | 2 | 124 | 81 | 163 | 101 | 134 | 131 | 180 |
| 1903, | 0 | 8 | 8 | 74 | 27 | 14 | 0 | 2 | 144 | 65 | 166 | 71 | 147 | 114 | 181 |
| 1902, | 0 | 7 | 13 | 11 | 83 | 29 | 0 | 2 | 138 | 76 | 143 | 79 | 150 | 131 | 181 |
| 1901, | 0·6 | 6 | 10 | 41 | 10 | 27 | 0 | 10 | 130 | 72 | 189 | 92 | 166 | 119 | 181 |
| Average 1901-1905, | 0·1 | 8 | 9 | 41 | 47 | 20 | 2·6 | 3·6 | 133 | 71 | 162 | 87 | 145 | 125 | 179 |
| „ 1896-1900, | 0 | 23 | 18 | 35 | 53 | 29 | 0·2 | 9 | 167 | 70 | 210 | 87 | 172 | 109 | 167 |
| „ 1891-1895, | 0·4 | 21 | 22 | 63 | 52 | 56 | 1·0 | 10 | 181 | 72 | 190 | 81 | 210 | 100 | 156 |
| „ 1886-1890, | 0·8 | 14 | 10 | 80 | 66 | 9 | 1·4 | 15 | 184 | 67 | 202 | 68 | 216 | 100 | 175 |
| „ 1881-1885, | 0·2 | 13 | 15 | 36 | 67 | 1 | 6 | 13 | 204 | 74 | 185 | 69 | 251 | 82 | 159 |
| „ 1876-1880, | 0·6 | 35 | 30 | 28 | 66 | 2 | 19 | 29 | 223 | 101 | 194 | 61 | 286 | 72 | 146 |
| „ 1871-1875, | 48 | 68 | 30 | 53 | 68 | 5 | 20 | 35 | 243 | 107 | 214 | 56 | 281 | 60 | 136 |
| „ 1866-1870, | 3·6 | 71 | 5 | 50 | 62 | 8 | 62 | 49 | 298 | 130 | 259 | 59 | 238 | 70 | 122 |
| „ 1861-1865, | 36 | 93 | 49 | 51 | 62 | 12 | 176 | | 274 | 128 | 280 | 57 | 220 | 59 | 122 |
| „ 1856-1860, | 40 | 118 | 54 | 70 | 69 | 12 | 109 | | 322 | 179 | 203 | 56 | 182 | 58 | 111 |

* Corrected for transferred deaths in 1904 and subsequent years.

Infectious Diseases.—These are dealt with in greater detail in the succeeding part of the report devoted especially to the morbidity and mortality from zymotics. Differing from the preceding year, the mortality from these diseases was considerably higher than the average. Altogether, 272 deaths were registered as due to ordinary zymotic diseases, while in the preceding year the number was only 95. Deaths from measles, whooping cough, and scarlet fever were all above the average. Deaths from typhoid fever were few, and were exactly equal to the average. Tuberculous diseases are also separately dealt with in a later part of the report, but it may be mentioned here that the death-rate from phthisis showed a slight increase as compared with the preceding year, while the death-rate from other forms of tuberculous disease showed a slight decline.

Cancer.—In the preceding year (1910), I drew attention to the fact that there was a distinct drop in the number of deaths from this cause, as compared with the immediately previous year. There has, however, been an increase during the past year from 97 to 106, although the number is still under that for each of the three years preceding 1910. It is a common experience that the death-rate from cancer and other malignant diseases has been steadily increasing during the past forty years. There has not, however, been any definite increase in Aberdeen since 1907, but rather a tendency to decline. Notwithstanding the large amount of research in cancer that is being carried on in special institutes for cancer research, as well as in general laboratories, no very definite advance was recorded during the year in respect of the causation of cancer. Surgical procedure still remains almost the sole certain remedy for the removal of cancer. Usually employed before the disease has had time to become deeply rooted or to be disseminated through the body, it frequently offers many years of prolongation of life. Where any suspicion of actual cancer exists, surgical advice should always be obtained without delay. In spite of statements from time to time in the public press as to the discovery of medicinal remedies, no real remedy of this kind has yet been found. Many lives have been lost in wasting time in trying medicinal cures.

Bronchitis, like phthisis, has been a declining cause of death since near the commencement of civil registration. Indeed, since 1871-75, when the death-rate per 100,000 of population was 281, it has fallen more rapidly than the death-rate from phthisis. In that quinquennium the death-rate from the latter cause was 243. In 1911, the death-rate from bronchitis was 88, and from phthisis, 116. Even within the last ten years the death-rate from bronchitis has fallen to only about one-half of what it was. The decline has taken place at all ages, but especially at the "pre-school" age. It is probable that the conditions which favour the occurrence of fatal forms of pulmonary tuberculosis also favour deaths from bronchitis. These conditions are known, for tuberculosis, to be bad ventilation, low feeding, overwork, and irregular habits, although bronchitis and tuberculosis may be met, as is well known, among persons for whom these conditions have been practically absent.

Pneumonia, differing from bronchitis and tuberculosis, has been an increasing cause of death during the last half-century. The increase was most manifest between 1870 and 1902, when the rate rose from 70 per 100,000 of population to 131. For the next seven years, with slight fluctuations, it remained practically stationary. In 1910, however, it showed a remarkable fall—from 131 in the preceding year to 93 in 1910. It has risen to 109 in 1911, but this is the lowest rate apart from the rate for 1910.

During the past ten or twelve years, the increase since the preceding year has been almost entirely in deaths among persons under 15 years of age. The increase was in considerable part due to the high prevalence of measles and whooping cough, which diseases are frequently accompanied by affections of the lungs. The small prevalence of these diseases during the preceding year was no doubt largely responsible for the exceptionally low death-rate from pneumonia in that year.

Diseases of the digestive system also showed a slight increase since the preceding year, but were much under the number in the earlier years of registration. In 1861-65, the rate was 280 per 100,000, while in 1911 it was 111. A substantial part of this decline has taken place within the last ten years. A little more than ten years ago the rate was about 200.

Diseases of the circulatory system, excluding cerebral apoplexy and hemiplegia, have, like pneumonia, been an increasing cause of death within the last forty years. This is no doubt partly due to the increasing average age at death. Diseases of the circulatory system are much more frequently met with among older persons than among younger persons, and, accordingly, as the average duration of life becomes extended there will appear a constantly increasing death-rate from such diseases as are more associated with advancing age.

MORBIDITY AND MORTALITY FROM ZYMOTICS.

(Tables VII., VIII., and IX.)

Table VII. gives the distribution of the commoner zymotics as notified or discovered in the various wards of the City during the year 1911.

The table has been rearranged since the preceding year so as to show the number of cases and number of deaths per 10,000 of population in each of the wards. Previously, the absolute numbers occurring in each ward were stated, without adjustment for population. The same table also shows the distribution in the City, as a whole, of the cases and deaths according to age.

Scarlet Fever, it will be seen, showed a high prevalence in all the wards of the City, the greatest prevalence being in St. Andrew's Ward, with 111 per 10,000 of population. St. Machar and Torry came next to St. Andrew's, with 105 and 99, respectively. The lowest was Rubislaw, with 53, or less than one-half of the prevalence in St. Andrew's. The prevalence was also low in Woodside, St. Clement's, Ruthrieston, and Ferryhill. The ward with the lowest prevalence contains the

TABLE VII.—CASES OF CERTAIN INFECTIOUS DISEASES NOTIFIED OR DISCOVERED—
YEAR 1911.

(Not corrected for transferred deaths.)

| DISEASE. | NO. OF CASES AT VARIOUS AGE-PERIODS. | | | | | All Ages. | CASES AND DEATHS PER 10,000 OF POPULATION IN EACH WARD OF CITY.* | | | | | | | | | | |
|--|--------------------------------------|------------|-------------|-------------|-----------|-----------|--|-------------|---------------|----------------|-------------|---------------|------------|-----------|--------------|------------|--------|
| | Under 5 years | 5-15 years | 15-25 years | 25-45 years | 45+ years | | Woodside. | St. Machar. | St. Andrew's. | St. Clement's. | Greyfriars. | St. Nicholas. | Rosemount. | Rubislaw. | Ruthrieston. | Ferryhill. | Torry. |
| Population (in thousands), Census 1911 | ... | ... | ... | ... | ... | ... | 9.4 | 14.3 | 18.4 | 11.4 | 13.9 | 15.3 | 17.5 | 20.2 | 16.9 | 15.2 | 11.4 |
| A. Compulsorily Notifiable. | | | | | | | | | | | | | | | | | |
| Small-pox { Cases | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Deaths | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Scarlet Fever { Cases | 313 | 795 | 95 | 48 | 6 | 1257 | 62 | 105 | 111 | 62 | 71 | 71 | 78 | 53 | 64 | 66 | 99 |
| Deaths | 11 | 10 | 2 | 1 | 1 | 25 | ... | ... | 4 | 1 | ... | ... | 2 | 2 | 1 | 2 | 2 |
| Diphtheria..... { Cases | 132 | 168 | 33 | 21 | 2 | 356 | 22 | 31 | 23 | 18 | 13 | 20 | 29 | 16 | 21 | 20 | 27 |
| Deaths | 20 | 3 | ... | 1 | ... | 24 | 3 | 1 | 2 | 2 | 5 | 1 | 1 | 1 | 1 | 1 | ... |
| *Typhoid Fever { Cases | 5 | 8 | 16 | 5 | 2 | 36 | ... | 2 | 2 | 1 | 1 | ... | 3 | 8 | 1 | 1 | 1 |
| Deaths | ... | ... | 1 | 1 | 2 | 4 | ... | ... | 0.5 | ... | ... | ... | 1 | 0.5 | ... | ... | ... |
| Typhus Fever { Cases | ... | 1 | 1 | ... | 1 | 3 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Deaths | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Erysipelas { Cases | 4 | 4 | 9 | 48 | 77 | 142 | 14 | 13 | 7 | 7 | 10 | 13 | 11 | 2 | 5 | 7 | 10 |
| Deaths | ... | ... | ... | 1 | 2 | 3 | ... | 1 | ... | ... | ... | 1 | ... | 0.5 | ... | ... | ... |
| Puerperal Fever { Cases | ... | ... | 1 | 10 | ... | 11 | 1 | 1 | ... | ... | 1 | 3 | ... | ... | 1 | 1 | ... |
| Deaths | ... | ... | ... | 4 | ... | 4 | 1 | ... | ... | ... | 1 | 1 | ... | ... | 1 | ... | ... |
| Epidemic Cerebro-Spinal Meningitis { Cases | ... | 1 | 1 | ... | ... | 2 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... |
| Deaths | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| B. Not Compulsorily Notifiable. | | | | | | | | | | | | | | | | | |
| †Measles { Cases | 2143 | 3057 | 19 | 11 | ... | 5230 | 335 | 392 | 461 | 382 | 496 | 361 | 293 | 135 | 188 | 251 | 303 |
| Deaths | 114 | 6 | ... | ... | ... | 120 | 4 | 4 | 14 | 10 | 22 | 8 | 5 | 2 | 4 | 5 | 4 |
| †Whooping Cough { Cases | 705 | 659 | ... | 2 | ... | 1366 | 73 | 96 | 103 | 77 | 171 | 99 | 73 | 24 | 75 | 70 | 74 |
| Deaths | 74 | 3 | ... | ... | ... | 77 | 2 | 5 | 6 | 5 | 14 | 5 | 2 | 2 | 3 | 3 | 6 |
| Total { Cases | 3302 | 4693 | 175 | 145 | 88 | 8403 | 510 | 640 | 707 | 549 | 764 | 567 | 487 | 240 | 354 | 416 | 513 |
| Deaths | 214 | 27 | 4 | 8 | 5 | 258 | 10 | 11 | 26 | 18 | 39 | 16 | 12 | 10 | 8 | 11 | 11 |
| Tuberculous Disease— | | | | | | | | | | | | | | | | | |
| (a) Phthisis.....Deaths | 10 | 15 | 178 | ... | ... | 203 | 7 | 14 | 8 | 9 | 19 | 18 | 17 | 8 | 14 | 13 | 7 |
| (b) Other Tub. Diseases } Deaths | 48 | 17 | 17 | ... | ... | 82 | 3 | 7 | 4 | 10 | 7 | 7 | 8 | 2 | 2 | 2 | 4 |
| InfluenzaDeaths | 3 | 1 | 1 | 2 | 12 | 19 | ... | 1 | 0.5 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| Chicken-pox.....Deaths | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |

* Deaths occurring in Hospitals are assigned to the Ward of the City from which the cases were originally removed.

† Compulsory notification of these diseases ceased in February, 1903.

‡ Including Para-typhoid.

smallest proportion of the working-class population of the City, while the three wards with the highest prevalence are very largely occupied by the working classes. There were few deaths in any of the wards, and, contrary to what might have been expected, they were, proportionally, not more numerous in one type of ward than in another.

Diphtheria showed, like scarlet fever, a considerable prevalence in every ward of the City. The ward with the highest prevalence was St. Machar, with 31 per 10,000 of population. Rosemount and Torry came next, with 29 and 27. The lowest were Greyfriars, with 12, and Rubislaw, with 16. The deaths were distinctly more numerous in what may be called the east-end wards.

Typhoid Fever was unequally distributed throughout the City, the cases altogether being few. Rubislaw Ward suffered most, with 8 cases per 10,000, the next highest being Rosemount, with 3; but in Rubislaw there was a small outbreak associated with a milk supply, to which fuller reference is elsewhere made.

Typhus Fever.—The three cases of this disease throughout the year were confined to one house in Woodside. There were no cases in any other ward. Woodside is one of the two or three wards in the City in which these small sporadic appearances of typhus have been more frequent.

Erysipelas was most prevalent in Woodside, St. Machar, and St. Nicholas Wards, with 14, 13, and 13 cases per 10,000, respectively. The lowest prevalence was in Rubislaw, with 2, and Ruthrieston, with 5. One of the three deaths was, however, in Rubislaw, the other two being in the wards already referred to as having the highest prevalence.

Puerperal Fever was most prevalent in St. Nicholas—the most central ward of the City—with 3 deaths per 10,000. In no other ward were there more deaths than one, and in half of the wards there was none.

Epidemic Cerebro-Spinal Meningitis.—The two cases of this disease which occurred during the year happened in different wards—one being in St. Clement's and the other in St. Nicholas.

Measles, like scarlet fever and diphtheria, was distinctly epidemic during the year, and showed a high prevalence in practically every ward of the City, but the degree of prevalence varied considerably—from 496 per 10,000 of population in Greyfriars and 461 in St. Andrew's to 188 in Ruthrieston and 135 in Rubislaw. Here, as for most other diseases, the highest prevalence was in wards with a high proportion of working-class families. Such wards have also, in virtue of this fact, a relatively high proportion of children of the ages susceptible to measles and similar zymotics. The figures relating to these differences in prevalence are not quite reliable, inasmuch as notification is not compulsory. As the knowledge of the

cases is mainly obtained through the school attendance officers, whose duties are more actively required in connection with the east-end than the west-end schools, the reports are probably fuller for the former wards. The death-rate was, on the whole, much higher in the working-class than in the other wards, but there were striking variations even amongst the former. For example, in St. Andrew's and Greyfriars, the proportion of deaths to cases was about three times as great as in the neighbouring wards of St. Nicholas, St. Machar, and Woodside, but St. Andrew's and Greyfriars contain a larger proportion of the poorest of the working classes.

Whooping Cough, like measles, was most prevalent in Greyfriars and St. Andrew's, with 171 and 103, respectively, per 10,000 of population. The wards with the lowest prevalence were Rubislaw, with 24, and Ferryhill, with 70. The largest number of deaths was also in Greyfriars.

Tuberculosis.—The wards chiefly associated with *pulmonary tuberculosis*, or phthisis, were Greyfriars, St. Nicholas, and Rosemount, with 18, 18, and 17 deaths, respectively, per 10,000 of population; but such working-class wards as St. Andrew's and St. Clement's had only 8 and 9, and were as low as Rubislaw, with 8; while Ruthrieson and Ferryhill—west-end wards—had 14 and 13, respectively. The distribution of pulmonary tuberculosis, as judged by the deaths, is influenced by a tendency in some cases for the infected families to move into a west-end ward for the purer air and the greater elevation; while, on the other hand, the poverty that so often dogs the heels of tuberculosis may drive the family to the central wards, in which the rents are lowest.

Deaths from *other forms of tuberculosis* than pulmonary were most common in St. Clement's and Rosemount, while the wards with the lowest prevalence were Rubislaw, Ruthrieston, and Ferryhill.

Influenza was, so far as it could be inferred from the deaths, most prevalent in St. Clement's, but there was no ward, excepting Woodside, without a death.

MONTHLY DISTRIBUTION.—Table VIII. gives the incidence of the commoner infectious diseases throughout the months of the year.

Scarlet Fever, which became epidemic in its prevalence in the later months of the year, reached its greatest height in October, with 265 cases. The prevalence of the disease in the first seven months of the year had been of moderate proportions, ranging from 24 to 41 cases in each month. The epidemic wave first definitely showed itself in the month of August, and rapidly rose during September, reaching, as it has already been remarked, its climax in October, and then afterwards gradually fell. The case-mortality was not much affected by the degree of prevalence of the disease, there being nearly as many deaths in proportion during the later and epidemic months as during the earlier months of the year.

Diphtheria had, as usual, its highest prevalence in the autumn and winter months, reaching its greatest height in October, with 50 cases, although January

TABLE VIII.—PROGRESS OF CERTAIN INFECTIOUS DISEASES DURING THE TWELVE MONTHS OF YEAR 1911.

(Not corrected for transferred deaths.)

| DISEASE. | 1911. | | | | | | | | | | | | Whole Year. | |
|--|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|-------------|------|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | | |
| A. Compulsorily Notifiable. | | | | | | | | | | | | | | |
| Small-pox | { Cases | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | { Deaths | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Scarlet Fever | { Cases | 39 | 25 | 35 | 24 | 28 | 32 | 41 | 108 | 256 | 265 | 226 | 178 | 1257 |
| | { Deaths | ... | 1 | ... | ... | 1 | ... | 2 | 1 | 4 | 7 | 4 | 5 | 25 |
| Diphtheria..... | { Cases | 49 | 34 | 18 | 23 | 15 | 10 | 5 | 29 | 39 | 50 | 38 | 46 | 356 |
| | { Deaths | 2 | 1 | 2 | ... | 1 | 1 | ... | 1 | 4 | 3 | 4 | 5 | 24 |
| †Typhoid Fever..... | { Cases | 1 | 1 | ... | 4 | 5 | 1 | 2 | 5 | 4 | ... | 1 | 12 | 36 |
| | { Deaths | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | ... | 1 | 4 |
| Typhus Fever | { Cases | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| | { Deaths | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Erysipelas | { Cases | 10 | 9 | 10 | 8 | 8 | 7 | 9 | 7 | 9 | 13 | 28 | 24 | 142 |
| | { Deaths | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 3 |
| Puerperal Fever | { Cases | 2 | 2 | 1 | ... | 1 | ... | 1 | ... | 1 | 2 | ... | 1 | 11 |
| | { Deaths | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 4 |
| Epidemic Cerebro-Spinal Meningitis | { Cases | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| | { Deaths | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| B. Not Compulsorily Notifiable. | | | | | | | | | | | | | | |
| *Measles | { Cases | 2 | ... | 8 | 5 | 4 | 12 | 40 | 73 | 167 | 1032 | 2396 | 1491 | 5230 |
| | { Deaths | ... | ... | ... | ... | ... | 2 | 3 | ... | 13 | 57 | 45 | 120 | ... |
| *Whooping Cough..... | { Cases | 36 | 43 | 58 | 102 | 170 | 137 | 22 | 125 | 81 | 106 | 192 | 294 | 1366 |
| | { Deaths | 2 | 1 | 4 | 2 | 12 | 11 | 3 | 5 | 8 | 2 | 7 | 20 | 77 |
| Total | { Cases | 141 | 117 | 130 | 166 | 231 | 199 | 120 | 347 | 557 | 1468 | 2881 | 2046 | 8403 |
| | { Deaths | 6 | 4 | 7 | 2 | 15 | 12 | 7 | 11 | 17 | 26 | 74 | 77 | 258 |
| Tuberculous Disease— | | | | | | | | | | | | | | |
| (a) Phthisis..... | Deaths | 12 | 19 | 22 | 17 | 22 | 15 | 11 | 19 | 20 | 12 | 18 | 16 | 203 |
| (b) Other Tuber. Dis. | Deaths | 8 | 2 | 7 | 10 | 10 | 4 | 6 | 8 | 9 | 2 | 10 | 6 | 82 |
| Influenza | Deaths | 3 | 5 | 3 | 1 | ... | ... | 1 | ... | 1 | 1 | 2 | 2 | 19 |
| Chicken-pox | Deaths | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |

* Compulsory Notification ceased in February, 1903.

† Including Para typhoid.

approximated very nearly, with 49 cases. The lowest number of cases was in July, with 5, the number of cases in each month having fallen rapidly after the close of the winter. The highest case-mortality was in the last four months of the year, with 16 deaths in 173 cases. In all the remaining months of the year, when there were 183 cases, there were only 8 deaths.

The cases of *typhoid fever* were unequally distributed throughout the months of the year, there being no cases in March or October, and only one case in each of the three months of January, February, and November. The highest number was in December, with 12 cases, but these were due to a small milk outbreak. The case-mortality varied little from month to month.

Measles became highly epidemic in the last three months of the year, the crest of the wave being reached in November, but signs of its commencement were observed as early as June, with 12 cases, and more definitely in July, with 40 cases. In November, there were no fewer than 2,396 cases, and these cannot represent the whole of the cases occurring, since the notification of measles is not compulsory. Information regarding cases occurring amongst school children, and incidentally among younger children in families in which there are school children, is systematically obtained from the attendance officers of the School Board, who, by arrangement with the Public Health Department, inform the Department of all cases of measles coming within their knowledge. Probably, by these means the Department was made aware of about three-fourths to four-fifths of all the cases. In the last three months of the year, there were no fewer than 4,919 cases. The highest case-mortality occurred in the later months of the epidemic, 102 deaths happening during November and December.

Whooping Cough, which also exhibited a considerable excess in prevalence during the year, was most abundant during the last three months of the year, and especially in December, when there were 294 cases. There was also a wave of high prevalence in the second quarter of the year. The highest case-mortality was during this quarter, but as whooping cough, like measles, is not compulsorily notifiable, a proportion of the cases is not made known to the Public Health Department, and it is, therefore, more difficult to be certain as to case-mortality.

Typhus Fever produced 3 cases in the first two months of the year. There were no cases in the remaining months.

Erysipelas was much more prevalent in the last three months of the year than in the remaining months.

Puerperal Fever was most prevalent in the first three months.

Reference is made later on to the distribution of *tuberculous disease* throughout the year.

COMPARISON WITH PRECEDING YEARS.—Table IX. contains a comparison of the prevalence of the various zymotics in 1911 with their prevalence in each of the preceding ten years. The average for these ten years and for the previous decade is also given. The number of sicknesses is stated for each disease, with the number of deaths, as also the case-mortality or percentage of deaths to sicknesses. Compulsory notification of measles and whooping cough having been discontinued in February, 1903, information in regard to these cases, as has just been stated, is now being obtained mainly from the school attendance officers. This affects the case-mortality from these two diseases, as, since 1903, the cases intimated are fewer in proportion to the cases actually occurring than in the preceding years of compulsory notification. This tends to heighten the apparent case-mortality in the years since 1903, as the information regarding the deaths has been as complete in the one period as in the other.

The table shows that during the year 1911 the total known cases (8,252) of the seven more common zymotics embraced in the table were more than two and a-half times the average annual number (3,348) in the preceding decade, 1901-1910, and less than twice the average annual number (4,980) for the decade 1891-1900. The most prevalent zymotic was measles, but whooping cough was also considerably more prevalent than usual, as were scarlet fever and diphtheria. Indeed, the year exhibited a combination of epidemic prevalences that has been only rarely hitherto experienced.

Small-pox.—For four years there has been no case of this disease in the City, the last case being in 1907. Excepting this case, which was that of a foreign sailor, there have been no cases since 1904, and only four in all during the last ten years.

VACCINATIONS.—Since the passing of the Vaccination (Scotland) Act, 1907, I have, by the authority of the Town Council, been obtaining quarterly from the registrars the number of children regarding whom the parents have declared formally that they had conscientious objection to their vaccination. The accompanying table (Table X.) shows the proportion of vaccinations to surviving children in 1907, 1908, and 1909, and, for comparison, in 1880, 1890, 1900, and 1906. The new Act did not come into operation until the later part of 1907, but it provided for a declaration being accepted in regard to children born previously who had so far remained unvaccinated. The numbers given for the years 1907 and subsequent years, however, apply only to children born within the particular year. In addition to those included in the table, declarations were made on account of some children born before 1907. The table does not contain the figures for the year 1911, inasmuch as the Registrar-General allows one whole year to pass after the year in which the births occur, in order to give at least twelve months for carrying out the vaccination of each child.

The figures for vaccination given in the reports of the Registrar-General refer only to the vaccinations that have taken place within the year of birth and the subsequent year. It is a disadvantage that the reports take no account of primary

TABLE IX.—MORBIDITY AND MORTALITY OF SEVEN PRINCIPAL INFECTIOUS DISEASES

DURING EACH YEAR FROM 1901 TO 1911, INCLUSIVE.

(Not corrected for transferred deaths.)

| DISEASE. | | 1911 | 1910 | 1909 | 1908 | 1907 | 1906 | 1905 | 1904 | 1903 | 1902 | 1901 | ANNUAL AVERAGE. | |
|---|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|-----------------|---------------|
| | | | | | | | | | | | | | 1901 to 1910. | 1891 to 1900. |
| A. Compulsorily Notifiable. | | | | | | | | | | | | | | |
| Small-pox, | No. of Sickneses, | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 7 | 1.1 | 0.9 |
| | No. of Deaths, ... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | 0.2 |
| | Percent. of Deaths to Sickneses,... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.3 | 9.1 | 22.2 |
| Scarlet Fever, ... | No. of Sickneses, | 1257 | 674 | 1029 | 1262 | 492 | 151 | 215 | 589 | 465 | 321 | 385 | 558.3 | 796 |
| | No. of Deaths, ... | 25 | 7 | 11 | 17 | 5 | 6 | 11 | 21 | 13 | 11 | 9 | 11.1 | 29 |
| | Percent. of Deaths to Sickneses,... | 2.0 | 1.0 | 1.1 | 1.3 | 1.0 | 4.0 | 5.1 | 3.6 | 2.8 | 3.4 | 2.3 | 2.0 | 3.6 |
| Diphtheria. | No. of Sickneses, | 356 | 299 | 291 | 280 | 196 | 244 | 166 | 170 | 182 | 180 | 166 | 217.4 | 114 |
| | No. of Deaths, ... | 24 | 37 | 35 | 21 | 19 | 18 | 10 | 12 | 13 | 20 | 14 | 19.9 | 28 |
| | Percent. of Deaths to Sickneses,... | 6.7 | 12.4 | 12.0 | 7.5 | 9.7 | 7.4 | 6.0 | 7.1 | 7.1 | 11.1 | 8.4 | 9.2 | 24.5 |
| Typhoid Fever (including Para-Typhoid), | No. of Sickneses, | 37 | 21 | 34 | 16 | 24 | 16 | 23 | 37 | 26 | 46 | 163 | 40.6 | 103 |
| | No. of Deaths, ... | 4 | 2 | 5 | 0 | 7 | 4 | 4 | 4 | 4 | 3 | 15 | 4.8 | 12 |
| | Percent. of Deaths to Sickneses,... | 10.8 | 9.5 | 14.7 | 0 | 29.2 | 25.0 | 17.4 | 10.8 | 15.4 | 6.5 | 9.2 | 11.8 | 11.9 |
| Typhus Fever, ... | No. of Sickneses, | 3 | 0 | 0 | 0 | 0 | 0 | 98 | 34 | 0 | 0 | 0 | 13.2 | 7.5 |
| | No. of Deaths, ... | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 9 | 0 | 0 | 0 | 2.3 | 0.9 |
| | Percent. of Deaths to Sickneses,... | 0 | 0 | 0 | 0 | 0 | 0 | 14.3 | 26.5 | 0 | 0 | 0 | 17.4 | 12.0 |
| B. Not Compulsorily Notifiable. | | | | | | | | | | | | | | |
| Measles, ... | No. of Sickneses, | 5232 | 51 | 680 | 1346 | 453 | 2093 | 370 | 1913 | 3246 | 1999 | 2796 | 1494.7 | 2459 |
| | No. of Deaths, ... | 121 | 4 | 33 | 66 | 36 | 72 | 33 | 95 | 118 | 18 | 63 | 53.8 | 68 |
| | Percent. of Deaths to Sickneses,... | 2.3 | 7.8 | 4.9 | 4.9 | 7.9 | 3.4 | 8.9 | 5.0 | 3.6 | 0.9 | 2.3 | 3.6 | 2.7 |
| Whooping Cough, ... | No. of Sickneses, | 1367 | 234 | 1104 | 713 | 669 | 840 | 232 | 1696 | 507 | 3645 | 591 | 1023.1 | 1500 |
| | No. of Deaths, ... | 77 | 18 | 113 | 64 | 83 | 66 | 34 | 150 | 43 | 129 | 16 | 71.6 | 74 |
| | Percent. of Deaths to Sickneses, | 5.6 | 7.7 | 10.2 | 9.0 | 12.4 | 7.9 | 14.7 | 8.8 | 8.5 | 3.5 | 2.7 | 7.0 | 4.9 |
| Totals, | No. of Sickneses, | 8252 | 1279 | 3138 | 3617 | 1835 | 3344 | 1104 | 4442 | 4423 | 6191 | 4108 | 3348.4 | 4980 |
| | No. of Deaths, ... | 251 | 68 | 197 | 168 | 150 | 166 | 106 | 291 | 191 | 181 | 118 | 163.6 | 212 |
| | Percent. of Deaths to Sickneses,... | 3.0 | 5.3 | 6.3 | 4.6 | 8.3 | 5.0 | 9.6 | 6.6 | 4.3 | 2.9 | 2.9 | 4.9 | 4.3 |

TABLE X.—ABERDEEN.—NUMBER AND PERCENTAGE OF VACCINATIONS.

| | 1910. | | | | | | 1909. | | | | | | 1908. | 1907. | 1906. | 1900. | 1890. | 1880. |
|--|-------------------------|-------------|-----------|---------------|-----------------------|-------------|-------------------------|-------------|-----------|---------------|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Registration Districts. | | | | | Whole City. | Registration Districts. | | | | | Whole City. | Whole City. | Whole City. | Whole City. | Whole City. | Whole City. | Whole City. |
| | St. Nicholas. | St. Machar. | Woodside. | Old Aberdeen. | Nigg and Peterculter. | | St. Nicholas. | St. Machar. | Woodside. | Old Aberdeen. | Nigg and Peterculter. | | | | | | | |
| Children Born | 1651 | 1936 | 249 | 79 | 385 | 4300 | 1745 | 2030 | 231 | 70 | 416 | 4492 | 4450 | 4504 | 4710 | 4807 | 3447 | 3613 |
| Died before Vaccination | 217 | 168 | 24 | 5 | 34 | 448 | 251 | 194 | 32 | 7 | 42 | 526 | 511 | 470 | 535 | 568 | 406 | 348 |
| Surviving Children | 1434 | 1768 | 225 | 74 | 351 | 3852 | 1494 | 1836 | 199 | 63 | 374 | 3966 | 3939 | 4034 | 4175 | 4239 | 3041 | 3265 |
| A. Successfully Vaccinated | 1126 | 1420 | 197 | 63 | 283 | 3089 | 1273 | 1568 | 180 | 60 | 301 | 3382 | 3352 | 3455 | 3790 | 4079 | 2927 | 3221 |
| Percentage of (a) + (b) | ... | ... | ... | ... | ... | ... | 15 | 38 | ... | 2 | 20 | 75 | 169 | 167 | ... | ... | ... | ... |
| B. Insusceptible of Vaccination | 79 | 80 | 88 | 85 | 81 | 80 | 86 | 87 | 90 | 98 | 86 | 87 | 88 | 90 | 91 | 96 | 96 | 99 |
| Percentage | 3 | 4 | ... | ... | ... | 7 | 4 | 7 | 1 | ... | 2 | 14 | 9 | 11 | 3 | 5 | 4 | 7 |
| C. Not Vaccinated—Statutory Declaration of Conscientious Objection | 104 | 201 | 17 | 7 | 33 | 362 | 105 | 176 | 18 | 1 | 38 | 339 | 219 | 84 | ... | ... | ... | ... |
| Percentage | 7.3 | 11.4 | 7.6 | 9.5 | 9.4 | 9.4 | 7.0 | 9.6 | 9.0 | 1.6 | 10.2 | 8.5 | 5.6 | 2.1 | ... | ... | ... | ... |
| D. Remainder of Surviving Children | 201 | 143 | 11 | 4 | 35 | 394 | 97 | 47 | ... | ... | 13 | 156 | 250 | 317 | 382 | 155 | 110 | 37 |
| Percentage | 14.0 | 8.1 | 4.9 | 5.4 | 10.0 | 10.2 | 6.5 | 2.6 | ... | ... | 3.5 | 3.9 | 6.3 | 7.9 | 9.1 | 3.7 | 3.6 | 1.1 |

* (a) Number from Registrar-General's Returns; (b) Number vaccinated after close of year following year of birth, and to end of 1911.

vaccinations performed at a later age, although these are registered by the local registrars and help to increase the proportion of vaccinated children. In the table accompanying this report (Table X.), these belated vaccinations have been included up to the present date. They add appreciably to the proportion of vaccinated children. For example, in 1907, the proportion of vaccinated children was 86 per cent. according to the Registrar-General's returns, but it becomes raised to 90 per cent. by the inclusion of these later vaccinations. Similarly, the proportion of vaccinations among children born in 1908 is increased from 85 to 88 per cent., and in 1909, from 85 to 87 per cent. But it is probable, in regard to the last year, that some further vaccinations will be registered. The corrections have not been made for the years previous to 1907.

When these adjustments are made, the decline in the proportion of vaccinations is not quite so great in this City as it might at first appear. Yet the number of conscientious objectors has rapidly increased since the Act was passed. In 1907, there were only 82, but in 1908 there were 218; in 1909, 335; and in 1910, 373. The number of unvaccinated children has not, so far as Aberdeen is concerned, been reduced in proportion, for the reason that the increasing number of parents who make the statutory declaration of objection is drawn only in part from the class that have been in the habit of consenting to vaccination, a considerable part coming from among those who have hitherto contrived in one way or another to avoid the vaccination of their infants. In 1911, there were 365 objectors.

Measles.—The year 1911, in contradistinction to the preceding year, was marked, as has already been indicated, by an exceptionally high prevalence of this disease. In the preceding year, only 51 cases had been brought to the knowledge of the Department. This represented an exceptionally low prevalence. But in the past year, in spite of there being no compulsory notification, no fewer than 5,232 cases were reported. As has already been stated, the disease was distributed over the whole City. The number of deaths was 121, giving a case-mortality of 2·3 per cent., which, in view of the whole of the cases not being known, represents a low case-mortality. Even, as compared with the years during which notification was compulsory, it is under the average. For example, in the period 1891-1900, the average case-mortality was 2·7. The epidemic began in the autumn, and it reached its height in November. If all the cases belonging to the epidemic, including those in the early part of 1912, are brought together, they number 5,523, and they represent, when distributed according to age, about 1 in 9 of all children under five years of age, and about 1 in 11 of all children between five and fifteen years.

As usual, the deaths were far more numerous at ages under three than at higher ages. Thus, among children under one year of age, there were 44 deaths; among children between one and two years, 48 deaths; and among children between two and three years, 16 deaths—or, in all, at ages under three, 108 deaths. At all the higher ages, there were only 12 deaths, and yet at the ages of three years and upwards the cases were considerably more numerous than at the ages under three, there being 4,143 cases at the higher ages, as compared with 1,089 at the lower ages.

I have frequently, in previous reports, drawn attention to the excessive mortality from measles among very young children, but I thought it right to issue, shortly after the commencement of the epidemic, the following circular to the medical men of the City, with a view to their attention being specially directed to the necessity for great care in the treatment of the younger patients, and also to the advantages that might follow the removal of such cases to the City Hospital, one of the large pavilions of the hospital having been made available for the reception of these cases:—

Public Health Department,
Aberdeen, 2nd December, 1911.

Dear Sir,

Measles—Hospital Treatment.

The City, as you are aware, is at present suffering from a heavy epidemic of measles. Within the past three weeks there have been upwards of 40 deaths, and they have been almost entirely confined to children under two to three years of age. It has been the invariable experience that measles is a really dangerous disease for very young children. For children above four or five years of age, the mortality is so low as to give no cause for alarm.

During the last twenty years of the compulsory notification of this disease, ending with 1902, about 40,374 cases were notified. Of these, 13,451 were among children under three years of age, and 26,923 among children of three years and upwards. Of the former, 1,130 died, or about 1 in 12, while of the latter only 216 died, or about 1 in 125.

Measles is, therefore, *ten times* as fatal among children under three years of age as among children of three years of age and upwards. Of the first three years of life, the fatality is most marked in the first two years, and is considerably less in the third year.

A very large proportion of the fatal cases occur among children in poorer homes, where, owing to various circumstances, it is not always possible to obtain for the sick members of the family the same care and nursing as in better-off homes. It is, therefore, probable that if the parents in such poorer homes could be persuaded to allow their younger children—say, children under three, and especially under two years of age—when attacked by measles, to be removed to hospital, many lives might be saved.

To enable such a proposal to be carried out, we have arranged, by limiting the entry to hospital of scarlet fever patients, among whom the mortality at present is far below that among measles patients, to set free one large pavilion at the City Hospital for the treatment of young measles patients. The pavilion will accommodate 50 to 60 cases.

We would prefer to confine, as far as possible, the admissions to children under two or, at most, under three years of age; but where special circumstances suggest the desirability of admitting an older patient, the case will be considered.

Since the stoppage of the compulsory notification of measles, the Public Health Department has been dependent mainly on parents and on the

Attendance Officers of the School Board for the reporting of cases; but the cases thus reported are usually children of the school age. Moreover, many of them are not reported until the case has nearly terminated. It is important that the patient to be removed to hospital should be removed early, and before dangerous complications have set in. We wish, if possible, to prevent such complications.

We must, therefore, rely largely upon the goodness of the medical attendant in giving us the required intimation of young patients, and, if possible, at an early stage. It is not for isolation purposes that we wish the cases removed, but for purposes of nursing and treatment, in the hope of reducing somewhat the very great mortality.

The pavilion at the City Hospital will be ready for the reception of cases on Monday.

I am, yours faithfully,

MATTHEW HAY,
Medical Officer of Health.

It may be of interest to refer to the method employed in the disinfection of houses and clothing at the height of the epidemic. It was not found to be possible to remove as hitherto the bedding and clothing from the whole of the infected houses to the Disinfecting Station. It was, therefore, necessary at an early stage of the epidemic to resort to some simpler and less laborious method. Such a method was found in the disinfection of the house with formaldehyde gas, developed from a mixture of formaldehyde solution (formalin) and permanganate of potash. It is well known that sulphur dioxide gas, obtained from burning sulphur, has very little penetrating power, and is sufficient only for the disinfection of exposed surfaces. Formaldehyde gas has much more penetrating power, as was proved some years ago in published experiments carried out by this Department and by others. We have hitherto, in fumigating rooms with formaldehyde, used chiefly the Lingner apparatus, which we found by careful bacteriological tests made some years ago to be quite reliable. This apparatus, however, is expensive, and is not very convenient to use where a large number of houses require to be dealt with simultaneously. We made preliminary bacteriological tests with the simpler method of permanganate of potash and formalin, and found them to give practically as good results as those obtained with the Lingner apparatus. The materials are in both cases more expensive than for sulphur fumigation, but the efficiency is much higher. As the method is not extensively used, I may reprint the directions which we issued with the materials. A cheap metal basin, costing only a few pence, was supplied in each case, and the basin and materials were left with the householder, along with a copy of the instructions, the basin being subsequently returned to the Department. Purchasing the materials in large quantities and at wholesale prices, we found that the cost of the chemicals for each disinfection came to 9d. Formaldehyde gas is generated with great freedom, and very quickly saturates the atmosphere of the room, which is left closed for a period of three hours. The disinfection was followed by a thorough washing:—

PUBLIC HEALTH DEPARTMENT.

Fumigation with Formaldehyde and Permanganate.

Previously *close windows and chimney*, and hang clothes, blankets, and bedding over chairs and top and bottom rails of bed, &c., so as to expose them freely to the fumes.

Empty contents of packet of permanganate crystals into metal dish, and place on old newspaper in middle of room. Pour whole of formaldehyde solution rapidly over the permanganate.

Close door at once, and fumigate for at least *four hours*.

To help to prevent gas escaping into rest of house, a wet towel or sheet can be laid along outside of bottom of door.

All underclothing, sheets, pillow-slips, handkerchiefs, towels, and other easily washable articles should be steeped in disinfectant solution (as supplied), and washed.

MATTHEW HAY, M.D.,

Medical Officer of Health.

N.B.—The metal dish must be returned immediately after use to the Sanitary Office, 41½, Union Street.

Whooping Cough was also epidemic during the year, but not nearly to the same extent as measles. The year, however, showed the highest prevalence of this disease since 1904. Altogether, 1,367 cases were brought to the knowledge of the Department, but there is no doubt that there were many additional cases, of which the Department had no knowledge. The case-mortality was 5·6 per cent., which is the lowest since compulsory notification ceased in 1903. As with measles, the deaths were mainly among children under two to three years of age. For example, among infants under one, there were 45 deaths; among children between one and two years, 21 deaths; and among children between two and three years, 8 deaths—or, in all, 74 deaths. At all the remaining ages, there were only 3 deaths, although the cases (958) at these higher ages were considerably more numerous than those (409) at ages under three years.

Scarlet Fever was unusually prevalent during the year, the number of cases amounting to 1,257. In no year during the preceding ten years, except 1908, has this number been exceeded. In 1908, 1,262 cases were notified. The case-mortality in 1911 was 2·0 per cent., and, although low compared with that for the earlier years of notification, was considerably higher than during the immediately preceding four years. During these four years the case-mortality was unusually low, being only 1·1 per cent. The distribution of the deaths in relation to age was considerably different from that experienced in regard to measles and whooping cough,

for of the 25 deaths occurring during the year only 1 was among children under one year of age, and 2 among children between the ages of one and two. The remaining 22 deaths were of persons of three years of age and upwards—nearly one-half being of children of the “school” age-period (5-15 years).

It may be of interest to note the high infectivity and virulence of the disease in one family. The family consisted of the parents, aged about 60, and four grown-up sons and daughters, aged 18 to 36 years, none of whom had previously had scarlet fever. The disease attacked all except the mother, beginning with the youngest and passing upwards in order of age until it reached the father. The first, a son, was laid down on October 22nd, the next, a daughter, on October 27th, the third, a son, on the following day, the fourth, a daughter, on November 11th, and, finally, the father, on November 13th. Both sons recovered—the one after a mild attack, the other after a fairly severe attack; but both daughters and the father died—the daughters after being ill for six and four days, respectively, and the father after an illness of three days. There was a well-marked scarlet fever rash in each, except the father, who died without developing any distinct rash; and in those who recovered there was well-marked desquamation. The possibility of the illness being due to typhus was fully discussed with the medical attendant—certain symptoms, together with the extraordinary severity of the attack, being suggestive of typhus—but after a careful consideration of all the symptoms we arrived at the conclusion that the disease was scarlet fever of a peculiarly virulent type, such as has been described as occasionally occurring, even in the midst of an otherwise mild epidemic. A full account of the cases was contributed to the *British Medical Journal* by the Resident Medical Officer of the City Hospital.

Diphtheria.—During the year 356 cases were notified. In no year since notification began have so many cases been notified. The next highest year was the preceding year, 1910, with 299 cases. The City has suffered from an exceptional prevalence of diphtheria since near the beginning of 1908, the number of cases gradually increasing each year. In 1908, there were 280 cases; in 1909, 291; in 1910, 299; and, finally, 356 in 1911. The increase is not to be accounted for by a fuller notification of cases due to a larger recourse to bacteriological examination in the diagnosis of diphtheria, for in each of these four years the number of deaths has been considerable, and above that for any year in the preceding decade. There were, however, years in the earlier period of notification—the eighties—with an equally large number of deaths, although with fewer notified cases. The number of deaths during last year was 24, which gave a case-mortality of 6·7 per cent. In the preceding year the deaths amounted to 37, with a case-mortality of 12·4 per cent. In 1909, there were 35 deaths, giving a case-mortality of 12·0 per cent. It is so far satisfactory to find that the case-mortality in 1911 was scarcely more than one-half of that in the preceding two years, but in these two years it was unusually high in view of the general effect of antitoxin treatment in reducing considerably the death-rate from diphtheria since the introduction of such treatment.

The high prevalence of diphtheria in recent years has not been confined to

Aberdeen. It is being experienced almost everywhere, not only in this country, but also abroad. It is interesting to speculate on the causes of the increase. It is difficult to point to any change in our food or our habits that could account for it. We are certainly consuming more milk as time goes on, but milk is only rarely a vehicle of diphtheria infection. Proved epidemics of diphtheria from milk infection are very seldom met with, as compared with similar epidemics of scarlet fever and typhoid. Nor can we blame greater opportunities of contact between children at school or elsewhere. These remain as they have been for many years. Moreover, with the advent of the school doctor, the hygiene of both school and scholar is now receiving much greater care.

As regards the prevalence of diphtheria in relation to the schools, it may be stated that, out of the 356 cases notified, 166—or less than one-half—were of children attending school. Practically no school of importance escaped having one or more cases. In three schools, namely, Kittybrewster, with 16; Old Aberdeen, with 15; and Skene Square, with 14 cases, the incidence of cases was considerably above the average. In the preceding year, the three schools occupying a somewhat similar position were Ferryhill, with 15 cases; Sunnybank, with 13; and King Street, with 11. During the past year, these latter three schools had 4, 9, and 7 cases, respectively. The schools at Victoria Road and Rosemount had each 9 cases, the Grammar School had 8 cases, George Street and Ashley Road had each 7 cases, and Ruthrieston had 6. At the remaining 24 schools with which cases were associated, the highest number in any one school was 5; while in each of 12 schools there were not more than 2 cases.

It is of interest to state, as indicating the degree of infectiousness in single families, that the total number of families infected by diphtheria during the year was 291, of which 241 families had only one case, 42 families had two cases, and 8 had three or more cases. In the preceding year, with a total of 277 invaded families, there were 258 with one case, and only 16 with two cases and 3 with three or more cases.

The Public Health Department continues to supply gratuitously, to every practitioner desiring it, antitoxin for the treatment of private cases, as also to lend a sterilised syringe for the injection of the antitoxin. We have still to express regret that fuller advantage is not being taken of this privilege, so as to secure the earliest possible treatment of the case. For example, in 1911, out of the 356 cases reported, in only 20 was antitoxin applied for. It may be said that antitoxin was being used from private supplies, but information as to the cases admitted to the City Hospital shows that in only 6 per cent. of these had antitoxin been given before admission. It may be added that, of the 356 cases occurring in the City during the year, 317—or about 10 out of every 11 cases—were removed to the City Hospital for treatment.

Typhoid Fever was slightly more prevalent than usual during the year, the notified cases, including cases of para-typhoid, being 37, as against 21 in the preceding year, 34 in 1909, and 16 in 1908. The slight excess in prevalence was

attributable to two small outbreaks of the disease which occurred—one in April and May and the other in December. The latter outbreak was certainly due to infected milk, and the earlier one was also probably due to a similar cause.

In the earlier outbreak, which was caused by the para-typhoid bacillus B, 5 cases were implicated, and occurred in different families, all of which had been obtaining their milk supply from one dairy shop in the City. This led to an infection of the milk being suspected. This suspicion was partly borne out by inquiry at the farms from which the dairy received its milk, for at one of these farms a young boy had some time previously been suffering from a slight illness of a para-typhoidal character, although the illness was not sufficient to oblige the boy to be absent from school for more than a few days. The blood gave, when tested later, a positive agglutinative reaction. The illness of the boy, however, did not begin until certain of the illnesses associated with the dairy had occurred, and it was not conclusively proved that the milk supply from this particular farm was sold to all of the five patients in the City obtaining their milk from the suspected dairy. Although bacteriological examination was made with a view to ascertaining whether carrier cases existed at the farms, no such case was found. The circumstances of the origin of the outbreak remain, therefore, somewhat uncertain.

As regards the latter outbreak, it occurred in connection with a small farm in the north-western suburbs of the City, and produced 12 cases. Only one cow was kept by the farmer, which supplied his own family with milk, as also four neighbouring families. The farmer himself was the first to take ill, and, owing to the somewhat obscure nature of the symptoms, died before the exact nature of the illness had been ascertained by the doctor. Indeed, the patient, who had been suffering from maniacal delirium for some days and was being watched by a male attendant, had his end hastened by a self-inflicted wound in the chest. The Widal test had been made, but proved negative, probably owing to the test having been made at a comparatively early stage. The wife of the farmer was nursing him throughout his illness, and was at the same time milking the single cow which they owned. Before the farmer's death, illness began to show itself in his family, but was attributable to influenza. Eventually, 5 cases occurred in the family, including the wife of the farmer. Among the four families receiving milk, typhoid appeared in three of them. In one of the families, three children took ill, in another family there were two cases, and in the remaining family there was one case. There was no death except that of the farmer himself. The bacillus found in connection with these cases was the genuine typhoid bacillus, and not para-typhoid. It is only right to say that the medical attendant on the farmer, in spite of the negative Widal test and the exceptional character of the symptoms of the illness, recommended that the supply of milk to the neighbours should be stopped, but this recommendation was not carried out in time to prevent the propagation of the infection.

Of the remaining 20 cases of typhoid that occurred during the year, the infection in four cases was probably derived from sources outside the City. In one case, the patient had arrived only a few days before from Montreal. In other two

cases, the patients were members of a family that contracted the disease while on holiday in the country. In a fourth case, the patient was also probably infected in the country, having been employed in making repairs at an old country mansion for about five weeks before feeling ill. In another case, namely, that of a trawl fisherman, the patient took ill during the time his vessel was fishing in the far north, but it is possible that the infection had been obtained in Aberdeen, although its exact source was not traced. A sixth case was that of a soldier in the military barracks, who was probably infected during a short visit to the south. In another case, there was a suspicion of the patient being infected by his wife. He had, only a few months before taking ill, married a woman who, in girlhood, had suffered from typhoid fever. There was, therefore, the possibility of her being a typhoid carrier, but an examination of her stools and urine did not reveal the presence of the typhoid germ. The peculiar intermittency in the shedding of bacilli by typhoid carriers necessitates many examinations to establish a negative.

Typhus Fever.—After an absence of five years, typhus fever reappeared in the City during 1911 and produced three cases, all of which occurred in the same family. Towards the end of the month of January, a lad of 16 years was sent to the City Hospital from the Woodside district, on suspicion of his suffering from diphtheria. There had been a distinct sore throat, sufficient to excuse the diagnosis of the medical attendant, but the symptoms exhibited by the patient after admission to the hospital were suggestive of typhus fever, although the history of the onset of the illness was not very characteristic of this fever. The nature of the illness became clearer, however, when, later, the father and a sister of the patient developed fairly definite symptoms of typhus, with the characteristic rash. The family consisted of only four persons—the parents and the two children. The mother escaped, but she had suffered from typhus in early life. No other cases were discovered in the vicinity, and the source of the infection was not ascertained. All the cases made a good recovery.

This is not the first time in my tenure of the Medical Officership of Health that a similar one-family outbreak of typhus has occurred in the Woodside district.

Epidemic Cerebro-Spinal Meningitis.—There were only two cases of this disease during the year, and they occurred in the first two months. The first case was that of a girl, seven years of age, residing in the Footdee district. She was immediately removed to the City Hospital, and, although seriously ill for some time after admission, made eventually an excellent recovery. The next case was that of a lad of nineteen years, residing in the centre of the City, but employed in Torry. The patient was removed to hospital on the same day on which the notification was received, but he died early next morning, the attack being a severe one. In both cases the germ characteristic of the disease was found in the cerebro-spinal fluid. There was no known communication between the two cases or with any preceding case. The usual precaution was taken, in every case, of swabbing, for bacteriological examination, the throats of all family contacts, but in no instance was the meningococcus found.

ABERDEEN—TUBERCULOSIS, 1856-1911.—QUINQUENNIAL PERIODS.

ALL AGES. BOTH SEXES.



(Corrected for transferred deaths in 1904 and subsequent years.)

Erysipelas produced, as usual, a considerable number of cases—142, or 17 fewer than in the preceding year. In 1909, there were 150 cases, and in 1908, 156. The case-mortality has been low during the past two years. Last year, there were 3 deaths, and in the preceding year, 2 deaths. In 1909, there were 5, and in 1908, 7 deaths.

Puerperal Fever.—This disease was more prevalent than in the preceding year, 11 cases having come to the knowledge of the Department, as against 6 in the preceding year, but the number was not so large as in 1909, when there were 13 cases. There were 4 deaths. As usual, few of the cases were notified by the medical attendant, and the knowledge of the cases was chiefly obtained from the intimations made, under agreement with the registrars, who at once inform the Department of every death of a woman occurring within four weeks after childbirth; but no case is treated by us as one of puerperal fever without consultation with the medical attendant or without his assent. In every case, the articles of clothing were at once disinfected, and the nurse or midwife was removed to the City Hospital for the thorough disinfection of her clothing and especially of her hands.

Influenza was registered as the cause of 19 deaths during the year, or 8 fewer than in the preceding year, and 11 fewer than in 1909. Of the 19 cases, 3 were of children under five years of age, and 12 were of persons above the age of 45 years.

TUBERCULOUS DISEASE.

The number of persons dying from all forms of tuberculosis during the year was 271, as against 265 in the preceding year, and 270 in 1909. The number included 192 deaths from pulmonary tuberculosis or phthisis, and 79 deaths from other forms of tuberculous disease. The corresponding numbers for the preceding year were 183 and 82. There has, therefore, been an increase in the deaths from phthisis, but a decrease in the deaths from other tuberculous diseases. The death-rate from the whole group of tuberculous diseases was 164 per 100,000 of population, as against 161 in the preceding year, and 164 in 1909.

Although the City has enjoyed a remarkable decline in its death-rate from tuberculosis during the last 40 to 50 years, the decline, as I have remarked in a previous report, has never been without interruptions such as we have experienced during the past two years.

The accompanying diagram represents, for (a) pulmonary tuberculosis and (b) other tuberculosis, the decline in the death-rate for these diseases in Aberdeen since 1856. The death-rates are taken for quinquennial periods, except for the last year. The diagram shows that there has been a notable fall in the death-rate from both groups of tuberculosis since 1856. There is reason to believe that the interruption in the fall from pulmonary tuberculosis during the past two years will only be temporary.

Early in February of the year under report, a pavilion at the City Hospital was

TABLE XI.—ABERDEEN.—MORTALITY FROM TUBERCULOSIS IN YEARS 1856-1911.*
Per 100,000 of Population.

| PERIOD. | PULMONARY TUBERCULOSIS. | | | OTHER TUBERCULOUS DISEASES. | | | ALL TUBERCULOUS DISEASES. | | |
|-------------|-------------------------|----------|-------------|-----------------------------|----------|-------------|---------------------------|----------|-------------|
| | Males. | Females. | Both Sexes. | Males. | Females. | Both Sexes. | Males. | Females. | Both Sexes. |
| 1856-60 . | 333 | 312 | 322 | 235 | 135 | 179 | 568 | 447 | 501 |
| 1861-65 . | 267 | 279 | 274 | 158 | 103 | 128 | 425 | 382 | 402 |
| 1866-70 . | 295 | 300 | 298 | 170 | 98 | 130 | 465 | 398 | 428 |
| 1871-75 . | 234 | 250 | 243 | 129 | 89 | 107 | 363 | 339 | 350 |
| 1876-80 . | 217 | 228 | 223 | 112 | 92 | 101 | 329 | 320 | 324 |
| 1881-85 . | 189 | 216 | 204 | 90 | 62 | 74 | 279 | 278 | 278 |
| 1886-90 . | 179 | 188 | 184 | 76 | 60 | 67 | 255 | 248 | 251 |
| 1891-95 . | 179 | 183 | 181 | 83 | 62 | 72 | 262 | 245 | 253 |
| 1896-1900 . | 166 | 168 | 167 | 77 | 64 | 70 | 243 | 232 | 237 |
| 1901-05 . | 143 | 134 | 138 | 79 | 62 | 69 | 222 | 196 | 207 |
| 1906-10 . | 119 | 113 | 116 | 74 | 51 | 61 | 193 | 164 | 178 |
| 1906 . . | 118 | 140 | 130 | 89 | 52 | 70 | 211 | 196 | 204 |
| 1907 . . | 123 | 111 | 117 | 81 | 61 | 71 | 204 | 172 | 188 |
| 1908 . . | 131 | 97 | 113 | 80 | 47 | 61 | 211 | 144 | 174 |
| 1909 . . | 112 | 108 | 110 | 62 | 47 | 54 | 174 | 155 | 165 |
| 1910 . . | 112 | 110 | 111 | 54 | 46 | 50 | 166 | 156 | 161 |
| 1911 . . | 137 | 98 | 116 | 52 | 45 | 48 | 189 | 143 | 164 |

* Corrected for transferred deaths in 1904 and subsequent years.

TABLE XI. (A).—DEATHS AT VARIOUS AGE-PERIODS FROM TUBERCULOUS DISEASES
IN YEAR 1911, WITH AVERAGE FOR PRECEDING TWO QUINQUENNIA.

Compared with Deaths from All Ordinary Infectious Diseases and from All Causes.

| | Year. | Number of Deaths. | | | | | Number of Deaths from Tuberculous Diseases in every 100 Deaths from All Causes. |
|--|-------------|-------------------|--|--------------------------------------|--|----------------|--|
| | | Phthisis. | Other Tuber- culous Diseases. | ALL TUBER- CULOUS DISEASES. | ALL ORDINARY INFECTIOUS DISEASES. | ALL CAUSES. | |
| ALL AGES, . . . | 1911 Av. | 192 | 79 | 271 | 272 | 2512 | 10·8 |
| | 1906-1910 | 189 | 125 | 314 | 185 | 2515 | 12·5 |
| | 1901-1905 | 209 | 110 | 319 | 188 | 2705 | 11·8 |
| Infant Period, . . . 0—5 Years, . . . | 1911 Av. | 7 | 50 | 57 | 227 | 848 | 6·7 |
| | 1906-1910 | 6 | 76 | 82 | 136 | 823 | 10·0 |
| | 1901-1905 | 9 | 61 | 70 | 137 | 978 | 7·2 |
| School Period, . . . 5—15 Years, . . . | 1911 Av. | 14 | 16 | 30 | 21 | 115 | 26·1 |
| | 1906-1910 | 11 | 24 | 35 | 17 | 101 | 34·7 |
| | 1901-1905 | 16 | 23 | 39 | 11 | 106 | 36·8 |
| Adolescent Period, . . . 15—25 Years, . . . | 1911 Av. | 54 | 2 | 56 | 5 | 122 | 45·9 |
| | 1906-1910 | 47 | 10 | 57 | 4 | 115 | 49·6 |
| | 1901-1905 | 59 | 11 | 70 | 6 | 143 | 49·0 |
| Early Mature Period, . . . 25—45 Years, . . . | 1911 Av. | 62 | 6 | 68 | 5 | 253 | 26·9 |
| | 1906-1910 | 85 | 10 | 95 | 6 | 305 | 31·1 |
| | 1901-1905 | 85 | 10 | 95 | 8 | 312 | 30·4 |
| Late Mature Period, . . . 45—65 Years, . . . | 1911 Av. | 51 | 2 | 53 | 7 | 476 | 11·1 |
| | 1906-1910 | 35 | 4 | 39 | 8 | 471 | 8·2 |
| | 1901-1905 | 35 | 3 | 38 | 12 | 497 | 7·6 |
| Post-Mature Period, . . . 65 + Years, . . . | 1911 Av. | 4 | 3 | 7 | 7 | 698 | 1·0 |
| | 1906-1910 | 5 | 1 | 6 | 14 | 700 | 0·9 |
| | 1901-1905 | 5 | 2 | 7 | 14 | 669 | 1·0 |

opened for the reception of tuberculous cases—mainly cases of pulmonary tuberculosis. The pavilion consists of two large wards and four small wards, and accommodates from 40 to 45 patients. About the middle of the year a wooden weather-board shelter, designed by myself, was added for male patients, and, later on, towards the end of the year, another and similar shelter was erected for female patients. The former has accommodation for 15 patients, and the latter for 7. Each shelter, which is on the lean-to system, is provided with a dressing-room, warmed by a steam radiator, and having a hot and cold shower bath and a water-closet opening off the dressing-room. The dressing-room is also fitted with fixed wash-basins, having a supply of hot and cold water, and the whole length of each shelter is lighted by means of electric lamps. The shelters have added considerably to the accommodation for tuberculous patients at a very small expense—the total cost of the two shelters, including drainage and architect's fee, having been £474, or at the rate of £22 per bed for the 22 beds provided.

A special feature in the design of the shelters is the use of folding and removable screens, of painted canvas on wooden frames, for the partial closure of the shelters in front. No heating is provided in the shelters, except in the dressing-rooms. We have now had experience of the shelters throughout the whole of a winter, and find that they are preferred by most of the patients to the beds in the pavilion.

The City Hospital had, therefore, at the close of the year, 60 to 70 beds, including the shelter beds, available for the treatment of tuberculosis.

Within the first three or four weeks after the pavilion was opened, all the beds were occupied, and they have remained fully occupied ever since, including the beds in the shelters. The difficulty has been to meet adequately the demand for admission to the hospital. Altogether, from the time of the opening of the pavilion early in February to the end of the year, 122 cases of tuberculosis were admitted. No distinction was made as to age of the patient or to the stage of the disease. The early and middle stage cases were admitted in the hope of being able to effect an improvement of their condition by suitable treatment, and, partly, also to educate them in preventive precautions; and the more advanced cases were admitted, chiefly, for the purpose of preventing the infection of other members of the households from which they were removed. The advanced cases came mostly from very small houses. Some details in regard to the nature of the cases and the results of the treatment are given in a later part of the report dealing with the City Hospital.

The Town Council, in March, 1911, authorised the introduction of a system of voluntary notification of tuberculosis, both pulmonary and non-pulmonary. The demand for admission to the City Hospital had, however, become meanwhile so much in excess of the available accommodation that it was thought advisable not to bring the notification into operation until after the proposed shelters had been erected, so as to avoid too much disappointment on the part of the increased number of patients induced to seek admission after notification had been begun. The following is the scheme of notification as approved by the Town Council:—

CITY OF ABERDEEN.

Notification of Tuberculosis.

1.—The notification, subject to the qualification hereinafter stated, to be meanwhile on a voluntary basis.

2.—All medical practitioners within the City to be invited, in a circular letter issued by the Medical Officer of Health on behalf of the Town Council, to notify to the Medical Officer cases of tuberculosis, whether pulmonary or otherwise, occurring in their practice, private or institutional.

3.—The Parish Council and other public bodies or committees concerned in the management of any public institution within or belonging to the City, in connection with which cases of tuberculosis are treated, to be approached by the Town Council with a view to such public body or committee making it an instruction to their medical officers that every such case of tuberculosis shall be notified to the Medical Officer of Health.

4.—The Town Council to pay to the medical practitioner notifying any case of tuberculosis a fee of two shillings and sixpence, and such fee to be payable whether the case has occurred in his private or institutional practice:—

Provided that:—

- (1) The practitioner shall supply to the Medical Officer of Health such information regarding the case and its circumstances as the Medical Officer may require for public health purposes.
- (2) Such fee shall not be payable for the notification of a case which has previously been notified by another practitioner, but the Medical Officer of Health shall be empowered to pay a fee of one shilling for such second or later notification, on the understanding that the practitioner shall not be required to do more than notify the name and address of the patient and the name of the disease.

5.—In the event of the Medical Officer of Health desiring to obtain, for public health purposes, from the medical practitioner in attendance on any previously notified case of tuberculosis information as to the clinical condition and progress of the case, the Medical Officer to be empowered to pay to the medical practitioner for such information, if supplied, a fee of two shillings and sixpence.

6.—In the event of any person suffering from pulmonary tuberculosis, or from a tubercle-infected discharge, changing his usual place of residence, and thus rendering it desirable that the place of residence vacated by such person should be disinfected by the Public Health Department, the Medical Officer of Health to be empowered to pay to the medical practitioner in ordinary attendance on such person a fee of one shilling for notification of such change

of residence to the Medical Officer, provided that the notification is received by the Medical Officer not later than four days before the change of residence.

7.—The foregoing provisions for the notification of tuberculosis to be adopted tentatively, and to be subject to such revision as experience may render desirable.

Communications were made, as resolved, to the Directors of the Royal Infirmary and the Royal Hospital for Sick Children, as also to the Parish Council, representing the desirability of their authorising their medical officers to notify all cases of tuberculosis to the Public Health Department. The request was at once complied with by the Directors of the Sick Children's Hospital and by the Parish Council, but the Directors of the Royal Infirmary, after consultation with the medical staff, expressed the view that there might be a difficulty, in medical etiquette and law, in disclosing to the Department the nature of the illness of cases receiving treatment in the Infirmary unless the consent of the patient in each case was obtained. They, however, instructed their staff to make intimation of all cases in which the patient offered no objection.

The following is the circular letter that was issued to all the medical practitioners in the City in order to request their co-operation in the scheme of voluntary notification:—

Dear Sir,

Tuberculosis.

The Town Council, on the recommendation of the Public Health Department, approved earlier in the year a system of voluntary notification of all forms of tuberculosis, which was published in the press. I enclose a copy of the scheme as approved.

Although we have already received a considerable number of notifications, we have delayed seeking to bring the system into full operation, partly because of the demands for admission to the new tuberculosis pavilion at the City Hospital having been, until quite recently, much in excess of the available accommodation, with consequent disappointment to many applicants, and partly because of the quite exceptional pressure on the Sanitary staff from successive and partly concurrent epidemics of the more common zymotics.

With the erection recently of a wooden shelter for the sleeping accommodation of 15 additional male tuberculous patients, the demands on behalf of such patients are, for the time, being met, although a considerable number of female patients are still awaiting admission; but it is hoped very soon to provide sufficiently for these also, by the erection of a second shelter. At present, in the City Hospital there are beds for about 50 tuberculous patients in all.

From the therapeutic standpoint, we have naturally been anxious to obtain as large a proportion as possible of cases of incipient or early tuberculosis; but we have recognised from the beginning that admission should not be refused to advanced cases where the home conditions make it difficult for the patient to carry out proper precautions against spreading the disease. The most advanced cases are placed in side wards, and are thus separated from the other patients, who, with a few exceptions, are able to move about and take outdoor exercise daily.

The form of tuberculosis being dealt with in the Hospital is mostly pulmonary phthisis, but a few children suffering from other forms of tuberculosis not requiring surgical treatment have also been admitted, and have made good progress.

A full and careful trial, under the supervision of Dr. Lister, is being made of tuberculin treatment in all suitable cases. Patients who leave the Hospital to resume work before the course of treatment is completed are encouraged to continue the treatment as out-patients. We are also prepared to give tuberculin treatment to suitable out-patients recommended by their medical attendant. Some cases have been submitted to the Szendeffy treatment.

The pavilion is open at all times to the visits of medical practitioners, whether they have patients there or not. If previous notice is given, the Resident Physician will be glad to meet any practitioner, and conduct him over the pavilion.

As to cases left at home, these are being visited by a Sanitary Inspector or a Health Visitor—or both—from the Public Health Department. When the present great pressure of zymotic work has become somewhat reduced, it is hoped to give fuller attention to such cases.

Where the patient is not well-off, and is unable to procure a separate bed for himself, the Public Health Committee has authorised us to lend a bed, and, if necessary, also bedding. Several beds have already been so supplied. Sputum flasks or mugs can be obtained, as also a supply of disinfectant for the disinfection of handkerchiefs, clothing, and sputum.

A printed set of instructions for the use of the patient is also at the disposal of practitioners. A copy is enclosed, and additional copies will be sent if asked for.

A special form for the notification of tuberculous cases has been prepared. As it is desirable that greater privacy should be exercised in regard to such cases than for ordinary zymotic cases, the notification should be sent in a sealed envelope. Forms and envelopes are sent herewith.

Forms for intimating the removal of a patient from one house to another are also enclosed. It is very desirable that every house vacated by a tuberculous patient should be thoroughly cleaned and disinfected before being occupied by a fresh tenant. The Public Health Department undertakes such disinfection. It has for several years disinfected every house in which a consumptive has died. Information of tuberculous deaths is obtained from the Registrars.

It will be observed from the scheme of notification approved by the Town Council that the same notification fee is payable for institutional as for private cases, and that a fee is also allowed for intimation of change of residence of cases, and for replies to special inquiries.

The notification form provides for a considerable amount of information being supplied by the medical attendant, but he is not pressed to give more than he finds necessary and convenient. If the medical attendant states in notifying any case that no regular and repeated visiting from the Public Health Department is desired, his wish will be given effect to; but notification or intimation may conceivably be made where a visit by an official of the Public Health Department is wanted only for some special purpose, indicated by the medical attendant, such as to see to the hanging or repair of window sashes for proper ventilation, the loan of a bed, the supply of a sputum flask, the disinfection of the house or of a room, or to make inquiry into the health conditions of the workshop or other place in which the patient is employed. Such inquiries as the last will be judiciously made without introducing the names of practitioners.

If any practitioner prefers, in dealing with some special requirement, to send a private note rather than a formal notification, the note will receive due attention.

In all efforts to control tuberculosis, it has to be kept firmly in view that both seed and soil require to be considered.

Human tuberculosis can arise only from infection with the tubercle bacillus, and, so far as is yet known, mainly from bacilli of the human type.

In the numerous bacteriological examinations carried out under the direction of the British Royal Commission, and by many other workers, the human type of bacillus has

been practically the only type found in cases of pulmonary tuberculosis, tuberculous meningitis, and tuberculous disease of bones. The bovine type has, however, been found in nearly one-half of all cases of abdominal tuberculosis and in almost the same proportion of cases of tuberculous cervical glands among children. Practically all cases of tuberculosis of bovine origin are in children. Cow's milk is, therefore, not a negligible source of certain forms of tubercle in children, but the main source of the disease at all ages, and practically the sole source in adolescence and manhood, is infection from tuberculous human beings.

Exposure to tuberculous infection is especially dangerous for members of families with an inherited predisposition to fatal tuberculosis. In such families it is absolutely necessary that no precaution against the spread of the infection should be omitted. But, indeed, in all families in which a case of tuberculosis has occurred, every reasonable precaution should be observed; for it is doubtful if any person is ever immune from attack, provided the conditions of health and environment are favourable to infection.

Cases of pulmonary tuberculosis require more care than cases of other forms of tuberculosis, as the sputum, particularly in advanced cases, may be laden with tubercle bacilli. But it is not safe to assume that other forms of tuberculosis are not infectious. Careful observers have been able to demonstrate the bacilli in a considerable proportion of cases of tuberculous meningitis owing to simultaneous disease of the lungs, although the latter was not clinically pronounced. Abdominal cases may show bacilli in the excreta, and may be infectious in the same sense as cases of typhoid.

A tuberculous patient should, at the very least, have a separate bed, and if the disease is pulmonary he should have, if possible, also a separate room. In cases with cough and expectoration, he must be taught to avoid coughing in the face of others, to hold a handkerchief to his mouth, and to collect and destroy the sputum. In order to reduce the danger from coughed-up infection that may be floating in the air, those in charge of the home must see that the whole house is constantly well ventilated. Such ventilation is, in any case, required for the proper treatment of the patient.

Where adequate precautions cannot be carried out, an effort should be made to have the patient admitted to the City or other hospital or sanatorium, if a bed can be obtained.

It is equally important, in preventing the spread of the disease, to see that the other, and as yet healthy, members of the household have their health so maintained and strengthened that the tubercle bacillus will not readily find in any of them a favourable soil for its nurture and propagation. This is especially necessary in families with a tuberculous predisposition or history. They should have all adenoids and carious teeth dealt with or removed, so that there may be no interference with free breathing and no fouling of breath. They should, if possible, feed well, avoid over-exhaustion and long or late hours, eschew alcoholics, cultivate good habits of breathing, spend in the open air as much of their time as can be spared, cultivate a liking for outdoor games and recreation, choose a healthy occupation (granite-cutting, comb-making, printing, and clerking are among the occupations in Aberdeen most associated with phthisis), and, above all, live and sleep, winter and summer, in thoroughly well-ventilated rooms, avoiding enclosed and curtained beds. Their work-places must also be well ventilated. If they get run down, they should be urged to spend a week or two in the country, or to obtain admission to a Convalescent Home, such as Newhills or Linnmoor. Such a period of recuperation, or even a few days' rest from work, may often prove the "stitch in time."

They should not sleep with any other member of the family who has a chronic cough, even if its tuberculous origin is doubtful.

They should be made to realise that prevention is both easier and better than cure.

To assist in diagnosing tuberculosis, an arrangement has, as you are aware, long existed between the Town Council and the Professor of Pathology in the University, under which a bacteriological examination of sputum or other suspected material will be

made gratuitously. Tubes and cases for collecting and transmitting the sputum are obtainable at the University. But the medical attendant should not, before definitely diagnosing a case of phthisis, wait until the sputum shows tubercle bacilli. A considerable proportion of cases fail to reveal bacilli in the sputum, even during the second stage of the disease. It is then too late to begin sanatorium treatment with much chance of real arrest of the disease. A *paramount need*, if an effective arrest is to be obtained, is *the diagnosis of the case while it is as yet in the incipient or early stage*, when the symptoms suggest rather than prove the existence of phthisis. The great majority of really incipient cases do well under sanatorium or open-air treatment. It is not fair to the patient to delay disclosing to him, or, at least, to his friends, the probable nature of his illness. Proper attention to precautions cannot usually be secured without some degree of frankness.

If sanatorium treatment is not available, or is refused, arrangements can always be made for the patient sleeping with open windows—as open as possible at *top and bottom*—by causing the two sashes to overlap completely in the middle. With casement or so-called French windows, which are much more suitable for consumptives, the window can be entirely opened. The Medical Officer of Health will be glad to consult with the medical attendant as to the best means of providing open-air treatment at home.

Tuberculin treatment appears to be of considerable value in cases for which regular sanatorium treatment is not available. If the medical attendant does not care to undertake such treatment himself, he may arrange for the patient obtaining it as an out-patient of the City Hospital. Dr. Lister is also making considerable use of tuberculin treatment in his out-patient clinic at the Royal Infirmary, and is willing to provide for the examination and treatment of suitable patients there.

Any practitioner desiring to be instructed as to the methods of tuberculin administration as carried out at the City Hospital can obtain from the Public Health Department a brief print of instructions, and can also, by previous arrangement with the Hospital Resident, be present in the afternoon of Mondays and Thursdays, when the injections are usually made. The tuberculin treatment can also be seen at 4 p.m. on Tuesdays and Fridays in the out-patient department of the Royal Infirmary.

Although, in Aberdeen, open-air treatment of a few phthisis cases has been carried out for several years at the Royal Infirmary and at Newhills Convalescent Home, there may be some medical men who have never visited a sanatorium and seen how much cold fresh air can be borne even in midwinter by both the sick and the healthy. These are cordially invited to visit the tuberculosis pavilion at the City Hospital. They will find patients spending the whole day and night in open shelters, and in the almost equally open wards with the inside air as cold as the outside air. Beyond an ordinary open fire at the end of each large ward, intended chiefly for its brightening and cheerful effect, there is no heating. The hot-water radiators are never in operation except in the bathrooms and dressing-rooms. The patients are well clothed, but not excessively clothed. No one complains of cold. Catarrhs are practically unknown among both staff and patients. Such striking toleration of an unrestrained supply of cold fresh air, and the great benefits from it, require to be seen in order to be believed. Medical men and others who have seen them are much better able to advise, with real conviction, the use of the widely open window for tuberculous patients, whatever be the form of tuberculosis, and for persons exposed to tuberculosis infection or known to be descended from a tuberculous stock.

It may be useful for practitioners to know the extent of the accommodation available in Aberdeen for the institutional treatment of tuberculous cases.

The City Hospital has 50 beds, which will probably be increased to 60 by the erection of a sleeping shelter for females. Applications for admission should be addressed to the Medical Officer of Health.

The Poorhouse at Oldmill has two wards specially set apart for tuberculosis—one for

men and the other for women—each with about 21 beds, or 42 in all. The beds for males are usually fully occupied, and have continued so in spite of the opening of the pavilion at the City Hospital. The beds for females are not, as a rule, all taken up. Admission can be obtained only through the Clerk of the Parish Council.

The Sanatorium in connection with Newhills Convalescent Home has accommodation for about 14 male and female patients, but a few of these are usually drawn from the country. Applications for admission must be made to the Secretary, Mr. Stodart M. Chrystall, 21, Bridge Street. Dr. Lister examines all applicants for admission.

The Royal Infirmary and the Royal Hospital for Sick Children have no beds specially set apart for tuberculous cases, but both institutions deal with practically every suitable case among the poorer classes requiring surgical treatment. The average yearly number of such cases treated as in-patients during the past five years amounted to about 100 for the Infirmary and to about 120 for the Children's Hospital. Almost equally large numbers of cases received treatment as out-patients. A considerable number of cases of phthisis are admitted to the medical wards of the Royal Infirmary—about 40 to 60 every year—but their stay is limited. A few phthisical children are received into the Children's Hospital. At the Royal Infirmary a rapidly increasing number of phthisical persons—now about 200 a year—are treated as out-patients.

Morningfield Hospital receives a very few—1 or 2 a year—chronic cases of phthisis. Applications for admission should be made to Mr. Patrick Cooper, Advocate, 259, Union Street.

Tuberculous patients can, of course, also be treated as out-patients at the Aberdeen Dispensary. Upwards of 200 tuberculous patients are treated there annually.

It is expected that, as the result of certain large grants promised by the Treasury, and of the operation of the National Insurance Act, it will be possible for the City to make considerable additional provision for the treatment of early cases of tuberculosis by means of a sanatorium in the country, to which a work colony will probably be attached.

The establishment of a special dispensary for dealing with tuberculous cases will probably also be necessary. Meantime Dr. Lister is kindly undertaking, at his out-patient clinic in the Royal Infirmary, on Tuesdays and Fridays, at 11.30 a.m., the examination of cases, including any incipient or doubtful case that may be sent to him by a practitioner, and gives recommendations to suitable cases for admission to the City Hospital, Newhills Home, or elsewhere.

It is scarcely necessary to say that in its efforts to control and limit the spread of tuberculous disease, and improve the prospect of the arrest or cure of persons already attacked, the Public Health Department must be dependent very largely on the cordial and active help of the medical practitioners of the City. Happily, there has been a great reduction of the mortality from tuberculosis in Aberdeen during the past forty to fifty years. The death-rate is now only one-third of what it formerly was. In scarcely any decade during the half-century has the fall been greater than in the last decade. There is, therefore, good reason to hope for a further substantial decline in the near future, especially if we are resolved each to take his share in what has now come to be called the crusade against tuberculosis.

The Public Health Department is well provided with the most recent literature on almost every phase of the question. The literature is freely open for consultation by any practitioner, with such guidance as I may be able to give.

I am, yours faithfully,

MATTHEW HAY,
Medical Officer of Health.

It is not now of much consequence to discuss the system of voluntary notification thus introduced, because it has been superseded, at least in so far as pulmonary tuberculosis was concerned, soon after the middle of the following year by the Order of the Local Government Board rendering notification compulsory. It may, however, be stated that the voluntary notification has been remarkably full during the time that it lasted, and gave results equal to those obtained elsewhere under compulsory notification. As it was not properly set on foot till near the close of 1911, I purpose reserving the details of it for the report of the following year. It may only be mentioned that suggested notification by the medical profession of the change of residence of tuberculous patients has not met with much response, although a fee is offered for each notification.

Towards the close of the year an additional Health Visitor was appointed, who, although at first mainly engaged in dealing with cases of measles among young children, in order to help to lessen the high mortality among such children, had her services transferred shortly afterwards to the visitation of tuberculous cases, and has been so employed ever since. From the time of the opening of the tuberculosis pavilion, all intimated cases have had their homes visited by the infectious disease inspectors, with a view to inquiring into the conditions under which the patients were living, and to remedy so far as possible any defects in their dwellings, and, generally, to offer such help as it was possible for the Department to give. For many years, disinfection of houses and bedding after the death of tuberculous cases has been carried out, but this was extended during the year to all cases removed to the City Hospital. Beds and bedding were also given on loan to patients who were unable to provide separate beds for themselves, and who did not desire admission to hospital, or who were for weeks waiting admission. During the year, 16 beds, with the necessary bedding, were thus lent. A pocket sputum flask also was supplied in every case requiring it, along with a quantity of disinfectant, which is renewed as often as is required. A copy of the instructions for the use of consumptives, drawn up several years ago by the Department, was left in each household.

I desire to express my very great indebtedness to Dr. Arthur H. Lister for his invaluable services, so kindly and ungrudgingly rendered, in organising the treatment at the City Hospital, and in devoting weekly, and, indeed, almost daily, a large part of his time to the actual care of the patients. With his assistance, and with that of the Hospital Resident, Dr. Banks, a system of records for the cases in the hospital was begun that can claim, I think, to be almost unique in its completeness.

In addition to the 122 cases of tuberculosis treated within the City Hospital, a considerable number of cases of pulmonary and non-pulmonary tuberculosis were treated as in-patients in other institutions during the year. I give below a table showing the total number of cases receiving indoor institutional treatment during 1911, along with the places of treatment:—

ABERDEEN.—CASES OF TUBERCULOSIS RECEIVING IN-DOOR INSTITUTIONAL TREATMENT
DURING YEAR 1911.

| | Pulmonary Tuberculosis. | Other Tuberculosis | All. |
|--|----------------------------|-----------------------|-------|
| City Hospital, | 120 | 2 | 122 |
| Royal Infirmary, | 35 | 55 | 90 |
| Royal Hospital for Sick Children, | 1 | 121 | 122 |
| Newhills Convalescent Home, | 57 | 4 | 61 |
| Convalescent Hospital, Pitfodels, | 0 | 7 | 7 |
| | <hr/> | <hr/> | <hr/> |
| | 213 | 189 | 402 |
| Tuberculous Wards of City Poorhouse, | 47 | 6 | 53 |
| | <hr/> | <hr/> | <hr/> |
| | 260 | 195 | 455 |
| | <hr/> | <hr/> | <hr/> |

BACTERIOLOGICAL EXAMINATIONS.

Table XII. gives a summary for 1911, and for each of the preceding ten years, of the bacteriological examinations made for the City in the Bacteriological Department of the University by the Professor of Pathology and his special assistant, under the agreement with the Town Council. The assistant for the past year was Dr. James Watt, who was succeeded, shortly before the close of the year, by Dr. Sinclair Hunter. The Department is greatly indebted to Professor Dean and his assistant for the constant courtesy which they show in their relations with the Department, and for their readiness to give assistance and advice. The number of examinations has been rapidly increasing in recent years. During 1911, 1,830 examinations were made of material from cases of human disease. This represents an increase of 355, as compared with the preceding year, when 1,475 examinations were made. In 1909, the number was 1,116. The examinations for typhoid fever included, in many of the cases dealt with, the examination of the blood, stools, and urine for the typhoid germ, as well as Widal agglutinative tests. In addition to the examinations tabulated, certain dead rats were examined for the plague bacillus, but with negative result. This was done during the time that the plague bacillus had been found among rodents in Suffolk. Some sweetbread, which was alleged to have been the cause of an attack of several cases of gastric and intestinal irritation in a household, was examined bacteriologically, but without definite result. Certain other samples of food and animal products were likewise submitted to bacteriological examination.

A considerable number of samples of milk were examined for the presence of the tubercle bacillus by means of animal inoculations. The results of these examinations are given later under the head of Dairies.

The agreement between Professor Dean and the Town Council and other contributing local authorities in the north-east of Scotland continues to work satisfactorily.

TABLE XII.—ABERDEEN.—BACTERIOLOGICAL EXAMINATIONS.

| YEAR. | CASES OF SUSPECTED DISEASE. | | | | | | | | | | | | | |
|----------|-----------------------------|----------------|--------|----------------|----------------|--------|----------------|----------------|--------|-------------------------------------|----------------|--------|-----------------|--------|
| | TYPHOID FEVER. | | | DIPHTHERIA. | | | TUBERCULOSIS. | | | EPIDEMIC CEREBRO-SPINAL MENINGITIS. | | | OTHER DISEASES. | TOTAL. |
| | Posi- tive. | Nega- tive. | Total. | Posi- tive. | Nega- tive. | Total. | Posi- tive. | Nega- tive. | Total. | Posi- tive. | Nega- tive. | Total. | | |
| 1911 . . | 57 | 161 | 218 | 409 | 753 | 1162 | 98 | 318 | 416 | 2 | 29 | 31 | 3 | 1830 |
| 1910 . . | 36 | 114 | 150 | 320 | 671 | 991 | 60 | 224 | 293 | 5 | 30 | 35 | 6 | 1475 |
| 1909 . . | 27 | 83 | 110 | 189 | 469 | 658 | 87 | 180 | 267 | 22 | 51 | 73 | 8 | 1116 |
| 1908 . . | 25 | 121 | 146 | 213 | 202 | 415 | 73 | 161 | 234 | 6 | 15 | 21 | 4 | 820 |
| 1907 . . | 31 | 139 | 170 | 163 | 214 | 377 | 60 | 186 | 246 | 5 | 23 | 28 | 3 | 824 |
| 1906 . . | 19 | 92 | 111 | 176 | 222 | 398 | 84 | 178 | 262 | ... | ... | ... | 5 | 776 |
| 1905 . . | 8 | 76 | 84 | 104 | 124 | 228 | 83 | 182 | 265 | ... | ... | ... | 308* | 885 |
| 1904 . . | 17 | 95 | 112 | 160 | 162 | 322 | 83 | 154 | 237 | ... | ... | ... | 7 | 678 |
| 1903 . . | 25 | 105 | 130 | 180 | 150 | 330 | 60 | 95 | 155 | ... | ... | ... | 4 | 619 |
| 1902 . . | 32 | 79 | 111 | 165 | 131 | 296 | 67 | 128 | 195 | ... | ... | ... | 3 | 605 |

* 307 of these examinations were of the blood of Typhus cases.

The sum contributed yearly by the various authorities sharing in the agreement amounts, approximately, to 15s. 3d. per 1,000 of population, and provides a total sum of nearly £300 for the year. This covers the whole of the expenses of the bacteriological examinations, except the charge for animals and their keep in connection with inoculations. This charge is, under the agreement, paid by each contributing authority requiring such experiments, and is in addition to the ordinary contribution.

COMPARISON WITH OTHER TOWNS.

(Tables XIII. and XIV.)

Two tables (XIII. and XIV.) are submitted, in which the usual comparison is made between Aberdeen and other large towns in Scotland in regard to some of the more important features of their vital statistics. For the information contained in the tables, I am mainly indebted to the courtesy of the Local Government Board.

The rates have in every instance been corrected for transferred deaths, that is, for deaths transferred from the records in the places of their occurrence to the records of those places in which the persons have their home residence.

A further correction is applied to the death-rate from all causes. This correction is necessary to a strict comparison between the towns, owing to the differences in sex and age distribution, as explained in certain preceding annual reports. This correction is based on the census of 1901, the factors for correction, as derived from the census of 1911, having not yet been issued by the Registrar-General.

Births.—Table XIII. shows that, among the seven principal towns, Aberdeen had, as in the preceding year, the second lowest birth-rate (247 per 10,000 of

population), standing next to Edinburgh (213), although considerably above that city, and closely under Paisley (256). The town with the highest birth-rate was Greenock, with 305. In every one of the towns compared, except Greenock, the birth-rate was substantially lower in 1911 than in the preceding year.

Marriages.—In respect of the marriage-rate, Aberdeen occupied the third highest place, with a rate of 82 per 10,000 of the population, as against 80 in the previous year. The towns with a higher marriage-rate were Glasgow and Edinburgh, with 95 and 89, respectively. As pointed out in the report for the preceding year, the marriage-rate for the larger towns is considerably inflated beyond its proper dimensions by the celebration of a considerable number of marriages of parties both of whom reside outside the town.

Deaths.—As regards the death-rate from all causes and at all ages, Aberdeen had, along with Paisley, the second lowest crude death-rate (153 per 10,000), the only town with a lower death-rate being Edinburgh (145). The highest rates were in Greenock, Glasgow, and Dundee, with 178, 173, and 173, respectively. When the death-rate is corrected for age and sex distribution, Aberdeen assumes a better place on account of such correction decreasing its total corrected death-rate, while, in the case of the other towns, the corrected death-rate is heightened. Thus, for the past year, the corrected death-rate for Aberdeen was 152, and was almost as low as the corrected rate for Edinburgh (151), and distinctly below the rate (160) for Paisley.

In the preceding year (1910), Aberdeen had, on a population adjusted by the census of 1911, the lowest crude death-rate as also the lowest corrected death-rate. In 1909, it had also the lowest corrected death-rate, but the fourth lowest crude death-rate. In 1908, it had once again the lowest corrected death-rate, but the second lowest crude death-rate (Edinburgh being slightly lower). In 1907, Aberdeen stood lowest in respect both of the crude and of the corrected rates. This is a satisfactory record.

In regard to infantile mortality (the deaths of infants under one year per 1,000 births), Aberdeen occupied, in 1911, an unsatisfactory position in comparison with the other six principal Scottish towns, its mortality being the second highest, with 139, Dundee alone being higher, with 154. This high mortality, as has already been mentioned, was without doubt, in great part, caused by the high prevalence of measles and whooping cough during the year. The town with the lowest infantile mortality was Edinburgh, with 110, Paisley and Greenock coming next, with 112 each. In the preceding year, Aberdeen enjoyed the second lowest place, with 111—Edinburgh being still lower, with 103.

In respect of the mortality from the seven chief zymotic diseases, Aberdeen had a high death-rate, namely, 15·3, but not the highest, as Leith, with 16·5, and Glasgow, with 16·0, were still higher.

For the first time for some years, Aberdeen had to yield in 1911 its leading position amongst the compared towns in respect of the death-rate from pulmonary

TABLE XIII.—BIRTH, DEATH, AND MARRIAGE-RATES DURING THE YEAR 1911.*

Seven Principal Towns in Scotland.

(Population estimated from Census.)

| | Glas- gow. | Edin- burgh. | Dundee. | Aber- deen. | Paisley. | Leith. | Green- ock. |
|---|---------------|-----------------|---------|----------------|----------|--------|----------------|
| ESTIMATED POPULATION..... (in thousands). | 785 | 321 | 165 | 165 | 85 | 81 | 75 |
| MARRIAGE-RATE (per 10,000 of population). | 95 | 89 | 71 | 82 | 73 | 63 | 78 |
| BIRTH-RATE (per 10,000 of population). | 277 | 213 | 262 | 247 | 256 | 257 | 305 |
| DEATH-RATE— | | | | | | | |
| A—All ages. (per 10,000 of population). | | | | | | | |
| (a) All causes, | 173 | 145 | 173 | 153 | 153 | 162 | 178 |
| Corrected for Age and Sex Distribution | 190 | 150 | 179 | 155 | 169 | 169 | 181 |
| (b) Seven chief Zymotics, | 16·0 | 8·2 | 9·1 | 15·3 | 13·2 | 16·5 | 9·2 |
| (c) Tuberculosis, | ... | ... | ... | ... | ... | ... | ... |
| (1) Pulmonary, | 14·3 | 12·2 | 16·8 | 11·7 | 10·8 | 13·9 | 14·7 |
| (2) Other, | 7·4 | 6·0 | 8·6 | 4·8 | 5·6 | 4·8 | 9·4 |
| (d) Pneumonia, | 16·6 | 12·6 | 14·4 | 11·0 | 12·3 | 14·1 | 18·2 |
| (e) Malignant Diseases (chiefly Cancer), | 9·3 | 12·6 | 10·5 | 10·7 | 8·5 | 11·4 | 10·2 |
| Diseases of :— | | | | | | | |
| (f) Respiratory System (exclud- ing Tubercle and Pneumonia), | 14·8 | 9·9 | 14·8 | 11·0 | 16·3 | 13·6 | 15·3 |
| (g) Circulatory System, | 18·4 | 20·1 | 20·1 | 19·0 | 15·1 | 27·9 | 24·4 |
| (h) Nervous System, | 16·7 | 18·1 | 19·9 | 16·2 | 18·8 | 17·4 | 22·2 |
| B—Infants under 1 year (per 1000 births). | 137 | 110 | 154 | 139 | 112 | 134 | 112 |
| EXCESS of BIRTH-RATE over DEATH-RATE | 104 | 68 | 89 | 94 | 103 | 95 | 127 |

* Corrected for transferred deaths.

tuberculosis. Paisley had the lowest place, with 10·8, but Aberdeen came next, with 11·7, followed by Edinburgh, with 12·2; Leith, with 13·9; Glasgow, with 14·3; Greenock, with 14·7; and Dundee, with 16·8.

As regards the death-rate from forms of tuberculosis other than pulmonary tuberculosis, Aberdeen had, along with Leith, the lowest mortality, with a death-rate of 4·8; Paisley coming next, with 5·6; Edinburgh, with 6·0; Glasgow, with 7·4; Dundee, with 8·6; and Greenock, with 9·4.

Taking all forms of tuberculosis together, Paisley had again the lowest rate, with 16·4, but Aberdeen was very close, with 16·5. The highest was Dundee, with 25·4.

The death-rate from malignant diseases (chiefly cancer) was, as in the preceding year, lowest in Paisley, with 8·5, and highest in Edinburgh, with 12·6, and Leith, with 11·4. In Aberdeen, it was 10·7. It may be of interest to continue the comparison made in the preceding year between the towns on the east coast and the towns on the west coast, including, in the latter, Govan and Partick. All the rates given are corrected by the census of 1911, and are, for each year, per 10,000 of population.

EAST COAST TOWNS.

| | Edinburgh. | Leith. | Dundee. | Aberdeen. | Average. |
|------------------|------------|----------|----------|-----------|----------|
| 1907 | 10·8 ... | 9·5 ... | 9·6 ... | 11·1 ... | 10·3 |
| 1908 | 11·6 ... | 12·5 ... | 10·5 ... | 10·9 ... | 11·4 |
| 1909 | 11·7 ... | 13·7 ... | 10·9 ... | 11·1 ... | 11·9 |
| 1910 | 12·1 ... | 12·1 ... | 9·7 ... | 9·8 .. | 10·9 |
| 1911 | 12·6 ... | 11·4 ... | 10·5 ... | 10·7 ... | 11·3 |
| Yearly Average . | 11·8 ... | 11·8 ... | 10·2 ... | 10·7 ... | 11·2 |

WEST COAST TOWNS.

| | Glasgow. | Govan. | Partick. | Paisley. | Greenock. | Average. |
|------------------|----------|---------|----------|----------|-----------|----------|
| 1907 | 7·8 ... | 6·3 ... | 9·4 .. | 8·4 ... | 11·3 ... | 8·6 |
| 1908 | 8·5 ... | 6·4 ... | 8·0 ... | 6·7 ... | 7·7 ... | 7·5 |
| 1909 | 8·9 ... | 6·5 ... | 7·5 ... | 9·1 ... | 7·9 ... | 8·0 |
| 1910 | 9·3 ... | 7·4 ... | 10·1 ... | 7·6 ... | 10·3 ... | 8·9 |
| 1911 | 9·3 ... | 8·1 ... | 7·7 ... | 8·5 ... | 10·2 ... | 8·8 |
| Yearly average . | 8·8 ... | 6·9 ... | 8·5 ... | 8·1 ... | 9·5 ... | 8·4 |

It will be observed that, in 1911, the mortality from malignant disease was again considerably higher in the east coast (11·3) than in the west coast towns (8·8).

As regards pneumonia, Aberdeen had the lowest place, with a death-rate of 11·0, Paisley coming next, with 12·3, and Edinburgh, with 12·6. The highest was Greenock, with 18·2. In the preceding year also, Aberdeen occupied the lowest place for this disease.

As regards the death-rate from lung diseases (excluding tuberculosis and pneumonia), Edinburgh had the lowest place, with 9·9, Aberdeen coming next, with 11·0. Paisley, as in the preceding year, occupied the highest place, with 16·3. It is interesting to observe from year to year how that, in regard to lung diseases, which are in the popular mind frequently associated with the colder winds that are supposed to be more prevalent on the east than on the west coast, the towns which usually have the lowest death-rate from these diseases are Edinburgh and Aberdeen.

The death-rate from diseases of the circulatory system in Aberdeen (19·0) was the third lowest, Paisley being lower, with 15·1, and Glasgow, with 18·4. The highest was Leith, with 27·9.

As to the death-rate from diseases of the nervous system, Aberdeen was, as in the preceding year, the lowest, the rate being 16·2. Glasgow came next, with 16·7,

and the highest was Greenock, with 22·2. As has already been stated in an earlier part of the report, the adoption of the international classification of deaths by the Registrar-General has led to the transference in 1911 of deaths from cerebral apoplexy and hemiplegia from the circulatory group to the nervous group. The figures for these groups are, therefore, in the one case lower and in the other case higher, as a whole, than they were in the preceding year.

Excess of Birth-rate over Death-rate.—This excess was by much the highest in Greenock, with 127 per 100,000 of population. Glasgow followed, with 104, and Paisley, with 103. Aberdeen occupied the fourth place, with 94, and Edinburgh the lowest place, with 68. The lowest excess was only about half the highest.

Zymotic Prevalence.—In Table XIV. a comparison is made between the four chief towns in respect of (a) the number of notified cases of the three principal zymotic diseases, namely, diphtheria, scarlet fever, and typhoid fever; (b) the percentage of deaths among such cases; (c) the percentage of the cases removed to hospital for treatment; and (d) the number of deaths from these diseases per 10,000 of population.

In regard to *diphtheria*, Glasgow showed the highest prevalence, with 24 cases per 10,000 of population, and Aberdeen and Dundee came next, with 22 each, Edinburgh being lowest, with 19. In each of the four towns there was a considerable increase, as compared with the average of the preceding four years. The case-mortality, or percentage of deaths to notified cases, was lowest in Aberdeen, with 6·5, and highest in Dundee, with 10·1. In each town, except Edinburgh, the case-mortality showed a considerable decline, as compared with the preceding four years. The percentage of diphtheria cases treated in hospital was highest in Edinburgh, with 92, and lowest in Dundee, with 56. In Glasgow and Aberdeen, it was 90 and 89, respectively. The death-rate per 10,000 of population was lowest in Aberdeen, with 1·4, Edinburgh coming next, with 1·7, and highest in Glasgow and Dundee, with 2·2 each.

Scarlet Fever was much more highly prevalent in Aberdeen during the year than in any of the other three towns. There were 76 notified cases per 10,000 of population, as against 41 in Dundee, 40 in Glasgow, and 34 in Edinburgh. The case-mortality was lowest in Aberdeen and Dundee, with 1·9 per cent. In Edinburgh, it was 2·4, and in Glasgow, it was 2·9. The percentage of cases treated in hospital was highest in Edinburgh, with 94, and lowest in Dundee, with 56. In Glasgow, it was 92, and in Aberdeen, 82. The percentage of removals in Aberdeen was lower than usual, due to the great pressure on the hospital accommodation arising from the exceptional concurrence of epidemics to which reference has already been made. It is an interesting fact that in Edinburgh, with a very high percentage of removal of cases to hospital, neither the prevalence of the disease nor the case-mortality has been much less during the past five years than in Dundee, with scarcely more than half the percentage of removals to hospital. On an average, during these five years,

TABLE XIV.—DIPHtheria, SCARLET FEVER, AND TYPHOID FEVER IN 1911, AND IN PRECEDING FOUR YEARS.
 FOUR PRINCIPAL TOWNS IN SCOTLAND.
(Corrected for transferred deaths.)

| CITY. | Estimated Popula- tion in Thousands | TOTAL NUMBER OF NOTIFIED CASES. | | | NUMBER OF NOTIFIED CASES PER 10,000 OF POPULATION. | | | NUMBER OF DEATHS PER 100 NOTIFIED CASES. | | | PERCENTAGE OF CASES TREATED IN HOSPITAL. | | | NUMBER OF DEATHS PER 10,000 OF POPULATION. | | |
|------------|--|------------------------------------|-------------------|-------------------|--|-------------------|-------------------|---|-------------------|-------------------|---|-------------------|-------------------|---|-------------------|-------------------|
| | | Diph- theria | Scarlet Fever. | Typhoid Fever. | Diph- theria. | Scarlet Fever. | Typhoid Fever. | Diph- theria. | Scarlet Fever. | Typhoid Fever. | Diph- theria. | Scarlet Fever. | Typhoid Fever. | Diph- theria. | Scarlet Fever. | Typhoid Fever. |
| Aberdeen, | 1911 | 356 | 1,257 | 37 | 22 | 76 | 2.2 | 6.5 | 1.9 | 10.8 | 89 | 82 | 97 | 1.4 | 1.5 | 0.2 |
| | Average 1907-10 | 267 | 865 | 24 | 16 | 53 | 1.5 | 10.0 | 1.1 | 12.7 | 88 | 87 | 88 | 1.6 | 0.6 | 0.2 |
| Glasgow, | 1911 | 1,897 | 3,154 | 384 | 24 | 40 | 4.9 | 9.8 | 2.9 | 15.6 | 90 | 92 | 93 | 2.2 | 1.2 | 0.8 |
| | Average 1907-10 | 1,554 | 3,293 | 492 | 19 | 41 | 5.8 | 11.1 | 3.2 | 16.1 | 87 | 91 | 93 | 2.1 | 1.3 | 0.9 |
| Edinburgh, | 1911 | 605 | 1,075 | 31 | 19 | 34 | 1.0 | 8.8 | 2.4 | 6.4 | 92 | 94 | 94 | 1.7 | 0.8 | 0.1 |
| | Average 1907-10 | 485 | 1,535 | 63 | 15 | 48 | 2.0 | 7.5 | 2.5 | 11.1 | 88 | 94 | 90 | 1.1 | 1.1 | 0.2 |
| Dundee, | 1911 | 367 | 674 | 30 | 22 | 41 | 1.8 | 10.1 | 1.9 | 6.7 | 56 | 56 | 77 | 2.2 | 0.8 | 0.1 |
| | Average 1907-10 | 293 | 797 | 47 | 17 | 48 | 2.9 | 15.8 | 2.9 | 11.1 | 41 | 45 | 67 | 2.5 | 1.4 | 0.3 |

the notified cases per 10,000 of population was, in Edinburgh, 45·2, and in Dundee, 46·6; and the case-mortality was 2·5 in Edinburgh and 2·7 in Dundee. The difference in character of the population of the two cities accounts readily for the somewhat higher case-mortality in Dundee.

Typhoid Fever.—The prevalence of typhoid was lowest in Edinburgh, with 1·0 per 10,000 of population, and highest in Glasgow, with 4·9. In Dundee and Aberdeen, it was 1·8 and 2·2, respectively. The case-mortality was lowest in Edinburgh and Dundee, with 6·4 and 6·7, and highest in Glasgow, with 15·6. In Aberdeen, it was 10·8. The percentage of removals to hospital was highest in Aberdeen, with 97, and lowest in Dundee, with 77. About half of the cases of typhoid in Aberdeen during the year were due to two small milk epidemics. We are strenuous in Aberdeen in our endeavour to obtain adequate isolation and nursing for typhoid cases. Typhoid is more frequently spread by contact than is generally supposed, and there is scarcely any zymotic which demands so much skill and care in nursing those suffering from it.

WORKSHOPS.

(Table XV.)

The number of workshops, exclusive of factories, registered at the end of the year was 948. Each succeeding year shows a diminution. In 1910, the number was 970; in 1909, it was 985; in 1908, 1,029; and in 1907, 1,071. There was, therefore, a reduction of 22 in the number of workshops, as compared with that for the preceding year, and of 123 since the year 1907. The reduction since the previous year has been distributed over various trades—thus, joiners' workshops declined from 28 to 25; painters' workshops, from 41 to 38; plumbing workshops, from 26 to 25; jewellers' workshops, from 36 to 32; and dressmaking and tailoring workshops, from 251 to 249. On the other hand, fishcuring workshops have increased from 144 to 149.

The reduction was in several cases due to the workshops having been converted during the year into factories by the introduction of motive power, owing especially to the convenience and cheapness with which electrically-driven machinery can be installed and operated, even in very small workshops. The proportion of factories in recent years has grown considerably at the expense of the workshops. With the modern facilities for the introduction of motive power into small workshops, the distinction between factories and workshops, as defined in the Factory and Workshops Act, is becoming somewhat absurd. In the earlier days of factory legislation, there was some reason for the distinction, inasmuch as manufactories using steam power were almost always conducted on a much larger scale than workshops in which hand labour alone was used. At the present time, it is possible to find workshops with only one person employed, and yet, because electrical power is used, the place becomes a factory within the meaning of the Factory and Workshops Acts, and is presumed to be excluded from the control of the Local Authority.

TABLE XV.—FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors.

| Premises. | No. of Inspections. | No. of Written Notices. | No. of Prosecutions. |
|---|------------------------|----------------------------|-------------------------|
| Factories (including Factory Laundries) | 729 | 86 | — |
| Workshops (including Workshop Laundries) . . . | 1,067 | 198 | — |
| Workplaces (other than Outworkers' premises in- cluded in Part 3 of this Report) | 120 | 11 | — |
| | <hr/> 1,916 | <hr/> 295 | <hr/> — |

2.—DEFECTS FOUND.

| Particulars. | Number of Defects. | | | Number of Prosecutions. |
|---|-----------------------------------|-----------|------------------------------------|-------------------------------|
| | Found. | Remedied. | Referred to H. M. Inspector. | |
| <i>Nuisances under the Public Health Acts :—*</i> | | | | |
| Want of cleanliness | 213 | 213 | — | — |
| Want of ventilation | 6 | 6 | — | — |
| Overcrowding | 3 | 3 | — | — |
| Want of drainage of floors | 5 | 5 | — | — |
| Other nuisances | 18 | 17 | — | — |
| Sanitary accommodation { | insufficient | 4 | 3 | — |
| | unsuitable or defective | 30 | 30 | — |
| | not separate for sexes | 1 | 1 | — |

Offences under the Factory and Workshop Act:—

| | | | | |
|---|-----------|-----------|---------|---------|
| Illegal occupation of underground bakehouse (s. 101) | — | — | — | — |
| Breach of special sanitary requirements for bake- houses (ss. 97 to 100) | 38 | 33 | — | — |
| Other offences (excluding offences relating to out- work which are included in Part 3 of this Report) | 15 | 15 | — | — |
| | <hr/> 333 | <hr/> 326 | <hr/> — | <hr/> — |

* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

| NATURE OF WORK. * | OUTWORKERS' LISTS, SECTION 107. | | | | | | | | | | OUTWORK IN UNWHOLE- SOME PREMISES, SECTION 108. | | | | OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110. | | | | | |
|--------------------------------|---------------------------------|------------------|---------------------------|---|-------------|------------------|---------------|--|-----|------|---|------|-----------------|------|--|------|-------------------------------|---|--------------------------------------|---|
| | Lists received from Employers. | | | | | | | Prosecutions. | | | Instances. | | Prosecutions. | | Instances. | | Orders made (Section 110). | | Prosecutions (Sections 109, 110). | |
| | Sending twice in the year | | Sending once in the year. | | Outworkers. | | | Failing to keep or permit inspection of lists. | | | Failing to send lists. | | Notices served. | | Prosecutions. | | | | | |
| | Lists. † | Con- tractors | Work- men. | † | Lists. | Con- tractors | Work- men. | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | | | | |
| (1) | 16 | 2 | 253 | | 3 | — | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Wearing apparel— | | | | | | | | | | | | | | | | | | | | |
| (1) making, &c., | | | | | | | | | | | | | | | | | | | | |
| (2) cleaning and washing. | | | | | | | | | | | | | | | | | | | | |
| Household linen, . . | | | | | | | | | | | | | | | | | | | | |
| Lace, lace curtains, and nets, | | | | | | | | | | | | | | | | | | | | |
| Curtains & furniture hangings | | | | | | | | | | | | | | | | | | | | |
| Furniture and upholstery, . | | | | | | | | | | | | | | | | | | | | |
| Electro-plate, . . . | | | | | | | | | | | | | | | | | | | | |
| File making, . . . | | | | | | | | | | | | | | | | | | | | |
| Brass and brass articles, | | | | | | | | | | | | | | | | | | | | |
| Fur pulling, . . . | | | | | | | | | | | | | | | | | | | | |
| Cables and chains, . . | | | | | | | | | | | | | | | | | | | | |
| Anchor and grapnels, . . | | | | | | | | | | | | | | | | | | | | |
| Cart gear, . . . | | | | | | | | | | | | | | | | | | | | |
| Locks, latches, and keys, | | | | | | | | | | | | | | | | | | | | |
| Umbrellas, &c., . . . | | | | | | | | | | | | | | | | | | | | |
| Artificial flowers, . . . | | | | | | | | | | | | | | | | | | | | |
| Nets, other than wire nets, | | | | | | | | | | | | | | | | | | | | |
| Tents, . . . | | | | | | | | | | | | | | | | | | | | |
| Sacks, . . . | | | | | | | | | | | | | | | | | | | | |
| Racquet and tennis balls. | | | | | | | | | | | | | | | | | | | | |
| Paper bags and boxes, . . | | | | | | | | | | | | | | | | | | | | |
| Brush making, . . . | | | | | | | | | | | | | | | | | | | | |
| Pea picking, . . . | | | | | | | | | | | | | | | | | | | | |
| Feather sorting, . . . | | | | | | | | | | | | | | | | | | | | |
| Carding, &c., of buttons, &c., | | | | | | | | | | | | | | | | | | | | |
| Stuffed toys, . . . | | | | | | | | | | | | | | | | | | | | |
| Basket making, . . . | | | | | | | | | | | | | | | | | | | | |
| TOTAL, . . . | 16 | 2 | 253 | | 3 | — | 24 | — | — | — | — | — | — | — | — | — | — | — | — | — |

* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class *only*, but the outworkers should be assigned in columns 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.

† The figures required in columns 2, 3, and 4 are the *total* number of the lists received from those employers who comply strictly with the statutory duty of sending *two* lists each year and of the entries of names of outworkers in those lists. The entries in column 2 must necessarily be *even* numbers, as there will be two lists for each employer—in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year :—

| | Number. | Average— 1906-1910. |
|--------------------------------------|---------|------------------------|
| Bakehouses | 18 | 24 |
| Blacksmiths | 25 | 31 |
| Bootmakers | 80 | 89 |
| Fish Curers } | 149 | 132 |
| Fish Packers } | | |
| Furniture, Makers of | 49 | 57 |
| Joiners | 25 | 35 |
| Painters | 38 | 44 |
| Plumbers | 25 | 31 |
| Stonecutters | 25 | 29 |
| Watchmakers and Jewellers | 32 | 38 |
| Wearing Apparel, Makers of | 249 | 278 |
| Other Workshops | 233 | 278 |
| | 948 | 1,066 |

5.—OTHER MATTERS.

Matters notified to H.M. Inspector of Factories :—

| Class. | Number. |
|---|---------|
| Failure to affix Abstract of the Factory and Workshop Act (s. 133) | — |
| Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5). { | |
| Notified by H.M. Inspector | 3 |
| Reports (of action taken) sent to H.M. Inspector | 3 |
| Other | 2 |

Underground Bakehouses (s. 101) :—

| | |
|--|---|
| Certificates granted during the year | — |
| In use at the end of the year | 8 |

In one case which I have in my mind, a single, partially-invalided man, who makes a living by chopping sticks into firewood and selling the bundles throughout the City, now uses a small circular saw driven by an electric motor for cross-cutting his wood previous to chopping. The work is carried on in a small outhouse. The place is now technically a factory. In another case, the room occupied by a dress-maker with an electrically-driven sewing machine is also a factory. In Aberdeen we are fortunate in having as Factory Inspector Mr. Kirkwood, with whom the Public Health Department works in the utmost harmony in carrying out measures for improving the sanitary conditions of labour, whether the place in which the work is being performed is technically a workshop or a factory.

The following tabular summary of the work done during the year by the Sanitary staff in the inspection and regulation of factories and workshops has been prepared in accordance with the requirements of the Home Secretary, and was duly submitted to the Home Office. It ought to be noted that in the list of workshops

the numbers relate solely to workshops, as legally defined in the Factory and Workshops Acts, and do not include factories.

Excellent work continues to be done by the Sanitary Inspector and his staff in the sanitary control of the workshops in the City. Every workshop is regularly inspected, and an effort is made to keep it in accordance with the requirements of the Public Health Act and the Factory and Workshops Acts.

A large amount of work has been done in recent years in bringing all the workshops of the City into complete conformity with the requirements of the Sanitary Accommodation Order of the Home Office. So far as I am aware, there are now very few, if any, workshops that do not satisfy these requirements. The ventilation of workshops has also been receiving a large amount of attention, although it is disappointing to find that, although sufficient means of ventilation have been provided, the use made of them in many workshops is inadequate.

I would desire to refer, as I have done on a former occasion, to the need for more ample power for dealing with underground workshops. Such workshops are not uncommon in almost every town in connection with ordinary saleshops, being conveniently placed beneath these shops. The Sanitary Inspector and myself, when consulted in regard to the formation of new underground workshops, have invariably objected to them, as we have also done when it was proposed to convert for such purposes stores beneath saleshops. We have steadily, year by year, been taking steps with regard to all underground workshops in order to secure that they are provided with a reasonable amount of lighting and with proper ventilation. In no case has a workshop been allowed to continue, to our knowledge, where daylight is not of itself adequate during the greater part of the day for the lighting of the workshop, but we have been considerably hampered in enforcing reasonable requirements on account of lack of adequate powers.

BAKEHOUSES.—The bakehouses, of which there were 45, including 9 certified underground bakehouses and baking-rooms, were, as usual, inspected every quarter, and were found, on the whole, to be in a satisfactory condition. The chief difficulty is to get the occupants of bakehouses to realise that the standard of cleanliness in workshops in which food is prepared should be much higher than in other kinds of workshops. No doubt, from the abundance and the nature of the dust and from the readiness with which it cakes when wet, it is not easy to keep the furnishings and the floor of a bakehouse in perfect condition, but, without aiming at an ideal condition, there are not a few bakeshops in which considerable improvement could be effected by the occupants without excessive effort.

One additional bakehouse was opened during the year, but it was a small bakehouse in connection with a dairy.

It will be recollected that, in the report for the preceding year, a summary of the details of a minute survey of all the bakehouses in the town was given, including the results of various tests of an examination of the atmosphere and composition of the air, including germ counts, of selected bakehouses. A few of these tests were continued into the early part of the year under report, and gave similar results to these previously reported.

DAIRIES.—The dairies have been regularly inspected throughout the year, and their condition was, as a rule, found to be satisfactory. A number of small additions, alterations, and repairs were carried out at the instance of the Sanitary Department, and in one case the buildings of a dairy farm were substantially remodelled in order to meet the requirements of the Department. Although the Local Authority possesses no power to refuse registration of a dairy, the Department has usually little difficulty in getting their various requirements as to structural alterations carried out.

In the report for the preceding year, I referred to the desirability of some more satisfactory arrangement than at present exists for the fuller inspection of the numerous dairies outside the City boundary which supply the City with a large part of its milk. It is especially desirable that, as within the City, a veterinary inspector should be appointed to examine periodically the cows in each byre. Owing to the resignation during the year of Mr. M'Lauchlan Young as Veterinary Inspector for the Corporation, an opportunity has been given for the City coming to an agreement with the surrounding Local Authorities as to the inspection of the various dairies by one whole-time veterinary inspector to be appointed by the Town Council. With this object in view, the Town Council has been in communication with the District Committees of the surrounding districts, and representatives have been appointed by each Committee to attend a conference with representatives from the Town Council, but the conference has not yet taken place. The promise of fresh legislation for the control of dairies complicates the situation, as it is not yet certain what shape such legislation may eventually assume, and what powers and obligations it may confer on Local Authorities.

TUBERCLE IN MILK.—During the year, 49 samples of milk were examined for tubercle bacilli by inoculation methods in the bacteriological laboratory of the University. Of the 49 samples, 3 were obtained from dairy herds within the City, 23 from milkshops receiving the whole of their supply from herds outside the City, and 17 from dairy carts similarly supplied. One was sent by a medical practitioner for examination. In two cases—both from town milkshops receiving their milk supply from country farms—the milk was found to be tuberculous. In both, the cows at the farms from which the milk was received were inspected, and the milk from suspected cows tested by inoculation. In one case, no appearance of tubercle was found in the herd from which the milk was obtained. In the other case, the milk was received from three separate farms; two of these farms contained no suspicious cows, but the third was found to have no fewer than four cows suffering from what appeared to be tubercle of the udder. The milk from these cows, when tested by inoculation, gave a positive result. Arrangements were at once made for the removal of the tuberculous cows from the herd. They were subsequently slaughtered.

Previous to 1911, 65 milks had been examined for tubercle by inoculation methods, and in only one case with a positive result, if one milk which yielded a doubtful result is excluded. There was, therefore, an increase in the proportion

of tuberculous milks in 1911 as compared with preceding years. Altogether, 119 milks have now been examined for tubercle, with 3 definitely positive results. This is not, however, a high proportion as compared with the majority of other large towns, in which the percentage of tuberculous milks runs not infrequently to as high as 10, and sometimes reaches even 15 to 20. All the samples hitherto found in Aberdeen to be tuberculous have come from dairies outside the City boundary. This is largely in accordance with experience elsewhere. It has, however, to be kept in view that of the total milk supply of the City the proportion derived from dairies outside the City amounts to about four-fifths. Even with the same incidence of tubercle in country as in town milks, the absolute number of tuberculous milks would in Aberdeen be four to five times as high in country as in town milks. We have, therefore, not yet obtained a sufficiently large series of both kinds of milk in Aberdeen to enable a fair comparison to be made statistically.

The relatively low proportion of tuberculous milks in Aberdeen is probably due to the large proportion of young cows in the herds of dairymen around, and especially within, the City, and to the practice of feeding off the cows after one season of milking. Young cows suffer less from tubercle than old cows, and especially from tuberculosis of the udder, which is the main source of tuberculous infection in milk. It would, I believe, greatly aid in reducing the proportion of tubercle-infected milks in the kingdom generally if the practice were more widely adopted of using only young cows for the production of milk intended for human consumption. I am of opinion that the great differences between different districts in respect of the proportion of tuberculous milks is in large measure due to the differences in practice with regard to the age of the cows used in the dairies of the district.

INSPECTION OF PLANS.

As usual, a considerable number of plans—chiefly of factories and workshops, and especially of those in which foodstuffs are prepared—were examined and reported on by the Sanitary Inspector and myself. Thus, plans for 17 new buildings, or alterations of existing buildings, were dealt with, 10 of which related to premises in which foodstuffs were prepared, including 9 fishcuring premises. In the previous year, the number of plans examined was 19. Several recommendations in regard to improvements in lighting and ventilation, paving of floors, and the provision of sanitary conveniences were approved by the Town Council and given effect to. I am glad to find that much more attention is being given than formerly to the ample lighting of workshops. It is a profound mistake in every respect not to provide a workshop with a liberal supply of natural light. It makes for cheerfulness and good health in the workers, enables the work to be more accurately done, and reduces the accounts for artificial light. It is also a great incentive to cleanliness, for it shows up dirt.

OFFENSIVE TRADES.

The offensive trades in Aberdeen, within the meaning of the Public Health Act, are concerned chiefly with tallow melting or oil extracting from ox bones or fish livers, soap boiling, slaughtering, knackerings, hide factoring, and the manufacture of manures, including fish manure and a similar product known as fish meal.

During the year, an application was received from the North-Eastern Agricultural Company for sanction to carry on the business of manufacturers of manure within new premises to be erected in the grounds of Bannermill, abutting on Constitution Street. The business of manure manufacturing was to be conjoined with that of linseed crushing. The company had on a previous occasion applied for similar sanction for the use of premises in a part of the town in closer proximity to dwelling-houses. Their application was at that time refused. The Sanitary Inspector and myself were of opinion that the application for the premises on the new site should be granted, as the site appeared to us to be reasonably free from objection, and the company had, at our request, given an explicit undertaking that they would confine their business to the mixing and grinding of manures, and would not undertake, without further sanction, the manufacture of superphosphates or fish meal or the carrying out generally of manufacturing processes for manure that are liable to be attended by offensive smells. Several of the residents in the vicinity of the Bannermill grounds were, however, alarmed at the prospect of a manure manufactory being established at Bannermill, and pressed their objections before the Town Council, who eventually decided, on the recommendation of the Public Health Committee, to withhold their sanction, mainly on the ground that they considered it to be *ultra vires* under the offensive trade section of the Public Health Act to grant a restricted sanction for any of the businesses enumerated in the section. An appeal against the decision of the Town Council was taken by the company to the Local Government Board, who commissioned Dr. Dittmar, one of their inspectors, to hold an inquiry in Aberdeen. As the result of this inquiry, the Board dismissed the appeal, and determined that the sanction of the Local Authority had been properly withheld. We may, however, venture to surmise that, had the Board been able to take the view that a restricted sanction could be granted, their decision might have been different. This case, and similar cases elsewhere, make it desirable that in any Act amending the Public Health Act power should be given to restrict the purposes for which sanction may be granted by the Local Authority for the establishment of any particular business. It is unfortunate that the establishment of a practically inoffensive and legitimate trade should be hampered by the difficulty indicated. A possible way out of the difficulty would be for the Local Authority to add—if the Local Government Board would approve—to the list of offensive trades enumerated the trade of grinding and mixing of manures.

An application was also received on behalf of the Aberdeen Flesher Incorporation for sanction to establish the business of gut and tripe cleaning within a

specified part of their new slaughter-house in Hutcheon Street. This was granted by the Town Council.

The Northern Co-operative Company, on the report of the Sanitary Inspector and myself, were granted permission by the Town Council to transfer their business of tallow melting from one part to another part of their premises in Berryden Road.

Sanction was also given to the extension of tallow-melting premises in Russell Road forming part of an existing large provision-curing yard.

In each case, the applicants readily complied with the suggestions made by the Department.

During the past year, as in the preceding year, a considerable number of complaints were received regarding a fish meal or fish manure manufactory in Palmerston Road. This manufactory was referred to fully in the report for the preceding year. It was commenced without the sanction of the Town Council on the plea that the manufacture of fish meal was not at the time of the establishment of this manufactory included in the list of offensive trades as enumerated in the Public Health Act. The manufactory was, in the course of the year, transferred to other owners, who have introduced more effective methods of dealing with the effluvia, and who have also so far exercised greater care than the previous owners in the selection of raw material and in the control of the process of drying. It is satisfactory to find that, although complaints have not altogether ceased, they have been less frequent under the new ownership and management. There is no wish on the part of the Department to hamper an industry such as this, which forms an almost necessary accessory to the great industry of fishcuring, in the City, provided means can be devised to carry on the business without—or practically without—offensive odour. It would, however, appear reasonable to demand that such businesses, which are liable at times to the production of highly offensive effluvia, should preferably be placed at a considerable distance from the populated part of the City.

SLAUGHTER-HOUSES.—The slaughter-houses, of which there are seven in the City, including one large slaughter-house in Hutcheon Street belonging to the Flesher Incorporation, were regularly visited throughout the year, and are being kept in good condition.

FOOD INSPECTION.—With the aid of the second inspector appointed by the Town Council towards the end of the preceding year, on the recommendation of the Sanitary Inspector and myself, it has been possible during the year under review to carry out a more thorough inspection of meat and foods in the City, not only within the slaughter-houses and various butcher and other shops, but also within the numerous provision-curing works that form an important feature in the industries of Aberdeen. The Fish Market is also visited daily, during the time of landing and selling fish, and the fish carefully inspected. The report of the Sanitary Inspector contains detailed information as to the quantity of meat

seized or destroyed during the year, and as to the places in which the seizures were made. With one exception, in which a live cow was seized at an auction mart, all the seizures of meat were of dead meat of various kinds. Out of the 214 whole carcasses of cattle seized, 170, or 79 per cent., were seized on account of tuberculosis; and of the 229 part carcasses seized, 166, or 73 per cent., were dealt with for the same cause. The number of whole carcasses seized for tubercle represented 4 per 1,000 of the total cattle slaughtered or examined within the City, and the part carcasses so seized represented a nearly equal proportion. Altogether, therefore, about 8 per 1,000 of the cattle slaughtered were suffering from tuberculosis to such an extent as to justify complete or partial seizure. These figures represent a slightly smaller percentage of seizures for tubercle than in the preceding year, and, in particular, a lower proportion of whole carcasses among the carcasses seized. The butchers now rarely refuse to grant full facilities in the cutting up of tuberculous carcasses in order to secure a complete examination of the glands. It has thus become more practicable in recent years to justify the seizure of portions of carcasses. Tuberculosis in pigs is rare in Aberdeen, and only one pig out of about 2,000 slaughtered had to be seized for this disease. Here, as elsewhere, tuberculosis in sheep may be said to be unknown. This is probably in large measure to be associated with the constant open-air life of sheep, and impresses a lesson.

Apart from tuberculosis, the most common cause for seizure of carcasses—but usually only partial seizure—was bruising, of which there were 99 cases. This represented in many cases considerable bruising, and even, in not a few instances, fracture of bones. It is probably impossible in dealing with upwards of 42,000 cattle—which was the number slaughtered in Aberdeen during 1911—to prevent a considerable amount of bruising in the transport of the cattle to the City, but in some cases the suggestion has been present to one's mind in examining the carcasses that sufficient care had not always been taken to prevent the more serious injuries.

The seizures of fish consisted solely of fish which had become more or less putrid. Parasitical disease of fish is not uncommon in Aberdeen as elsewhere, but it is rarely of such a nature as to justify the fish being condemned as unfit for human food.

Public Health (Regulations as to Food) Act, 1907.—Very little food, apart from cereals, is imported direct into Aberdeen, and no part of such food required to be dealt with under the Regulations.

CORPORATION LODGING-HOUSE.—The Corporation Lodging-house continues to be of much service to the City in providing a sanitary and properly regulated shelter for some of the poorest classes. It is fortunate in being managed by a superintendent who has great sympathy with these classes, and has had a long experience of their habits. It is to be regretted that the revenue from the lodging-house is still considerably under the sum required to meet the expenditure, including interest and sinking fund. It has, however, been reduced recently, and in the year 1911-12 was £527, as against £628 in the previous year.

WEATHER AND DISEASE.

(Tables XVI. and XVII.)

As in the reports for the preceding two years, I have prepared a table summarising the state of the weather for each month throughout the year, and comparing it with the average for the ten years 1897-1906. I have also supplied a table containing the number of deaths in each month from the more important diseases, together with the average number for the preceding ten years. The numbers in this table have been corrected for transferred deaths. The number of persons dying at each age-period during each month is also given.

The meteorological averages for the ten years show that, in Aberdeen, February is the coldest month of the year—elsewhere, it is more usually January—and that July is the warmest. They also show that December receives the least sunshine, and June the most—five to six times more than December. June is also the driest month, while December is the wettest. The mean daily range of temperature—or the difference between the highest and the lowest for the day—is greatest from April to September, and is lowest in January. It increases rapidly between January and April. Northerly winds are distinctly more prevalent in May than in any other month, easterly winds prevail most in June, westerly winds in December and January, and southerly winds in December and January. The most windy months are January and February, and the least windy are July and August.

In 1911, the coldest month was, as in the preceding year, January, with a temperature of 39·4 deg. F. The average temperature, however, of January in the preceding year was considerably lower (35·8). The warmest month was, as in the preceding year, August, with 58·4 deg. F. In the preceding year, the mean temperature of August was only 56·3. The mean temperature of the ground at four feet beneath the surface was lowest in February (39·7 deg. F.), and was exactly equal to the average for that month. The highest was in August, with 56·1 deg. F., when it was above the average by 2·7 deg. It was suggested some years ago by Dr. Ballard, of the English Local Government Board, that when the ground temperature at four feet beneath the surface rises above 56, diarrhoeal diseases begin to assume epidemic prevalence. It is true that there was a substantial increase of these diseases in August and September of 1911, but the number of deaths was less than the average for the preceding ten years, in which the ground temperature, on an average, was under 56 deg. The amount of bright sunshine, for the whole year (1,518 hours), was distinctly above the average (1,392 hours), the percentage of possible sunshine being highest in July, with 45 per cent., and lowest in December, with 19 per cent. In the preceding year, it was highest in May. The spring and summer months of the year were, on the whole, distinctly more sunny than the average for the preceding years, but the last three months of the year were, on the other hand, much more deficient in sunshine than usual. The total rainfall for the year (27·5 inches) was under the average (29·3). The wettest months were November and December, in which the rainfall amounted to fully one-third of the

TABLE XVII.—ABERDEEN.—NUMBER OF DEATHS FROM PRINCIPAL CAUSES IN EACH MONTH.

(Corrected for transferred deaths.)

| MONTH. | CAUSE OF DEATH. | | | | | | | | | | AGES OF PERSONS DYING. | | | | | | | | | | Average Age at Death. | | | | | | | | |
|----------------------|-----------------|-----------------|-----------------|----------------|-------------|----------------|------------|-------------------|--------------------------|-----------------------------|------------------------|---|------------|-------------|---------------------------------|------------------------------------|--------------|--------------|---------------------|---------------|-----------------------|-----|-----|-----|-----|-----|-----|------|------|
| | BIRTHS. | CAUSE OF DEATH. | | | | | | | | | | AGES OF PERSONS DYING. | | | | | | | | | | | | | | | | | |
| | | Measles. | Whooping Cough. | Scarlet Fever. | Diphtheria. | Typhoid Fever. | Influenza. | TUBERCULOSIS. | | | | Dis. of Digest. System (incl. Diarrhoea). | Pneumonia. | Bronchitis. | Diseases of Circulatory System. | Cerebral Apoplexy and Haemiplegia. | Convulsions. | Prematurity. | Malignant Diseases. | YEARS. | | | | | | | | | |
| | | | | | | | | Lungs (Phthisis). | Brain (Tub. Meningitis). | Abdomen (Tub. Mesenterica). | Other. | | | | | | | | | Under 1 Year. | | 0-5 | -15 | -25 | -45 | 65+ | | | |
| YEAR 1911. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| January, . . . | 337 | 0 | 2 | 0 | 2 | 3 | 10 | 4 | 1 | 2 | 17 | 19 | 21 | 27 | 7 | 18 | 4 | 10 | 19 | 40 | 57 | 11 | 6 | 28 | 50 | 77 | 229 | 41.9 | |
| February, . . | 330 | 0 | 1 | 1 | 1 | 5 | 21 | 0 | 1 | 0 | 14 | 14 | 17 | 26 | 8 | 16 | 12 | 12 | 15 | 42 | 53 | 16 | 16 | 17 | 42 | 69 | 207 | 42.1 | |
| March, . . . | 384 | 1 | 4 | 0 | 1 | 3 | 22 | 5 | 1 | 1 | 17 | 15 | 9 | 37 | 7 | 9 | 2 | 10 | 15 | 40 | 54 | 10 | 13 | 24 | 43 | 66 | 210 | 41.2 | |
| April, . . . | 346 | 0 | 2 | 0 | 0 | 1 | 17 | 5 | 0 | 4 | 9 | 20 | 16 | 25 | 9 | 5 | 6 | 8 | 12 | 50 | 63 | 12 | 12 | 11 | 35 | 45 | 52 | 195 | 37.7 |
| May, . . . | 371 | 0 | 12 | 1 | 1 | 1 | 18 | 8 | 0 | 1 | 15 | 13 | 14 | 23 | 11 | 16 | 4 | 7 | 12 | 50 | 71 | 9 | 9 | 28 | 45 | 58 | 220 | 36.7 | |
| June, . . . | 379 | 0 | 11 | 0 | 1 | 0 | 14 | 3 | 1 | 0 | 12 | 13 | 7 | 23 | 6 | 10 | 3 | 6 | 18 | 30 | 41 | 4 | 8 | 18 | 33 | 47 | 151 | 41.6 | |
| July, . . . | 307 | 2 | 3 | 2 | 0 | 1 | 11 | 3 | 2 | 1 | 12 | 10 | 5 | 19 | 7 | 10 | 5 | 3 | 16 | 25 | 40 | 12 | 7 | 13 | 40 | 49 | 161 | 41.4 | |
| August, . . . | 314 | 3 | 5 | 0 | 1 | 1 | 16 | 3 | 2 | 3 | 19 | 2 | 4 | 23 | 4 | 11 | 4 | 9 | 20 | 45 | 53 | 9 | 11 | 15 | 31 | 60 | 179 | 39.4 | |
| September, . | 323 | 0 | 8 | 4 | 4 | 1 | 18 | 3 | 4 | 4 | 25 | 13 | 4 | 23 | 4 | 14 | 0 | 3 | 9 | 47 | 66 | 10 | 9 | 33 | 31 | 50 | 199 | 35.2 | |
| October, . . | 307 | 13 | 2 | 7 | 3 | 0 | 12 | 1 | 0 | 1 | 17 | 9 | 9 | 26 | 6 | 10 | 5 | 7 | 14 | 48 | 73 | 8 | 5 | 24 | 40 | 51 | 201 | 36.7 | |
| November, . | 310 | 58 | 7 | 4 | 4 | 0 | 18 | 4 | 3 | 3 | 11 | 21 | 9 | 30 | 11 | 7 | 1 | 11 | 14 | 62 | 124 | 13 | 15 | 16 | 43 | 58 | 269 | 31.2 | |
| December, . | 349 | 45 | 21 | 5 | 5 | 1 | 15 | 1 | 3 | 1 | 16 | 32 | 30 | 29 | 8 | 15 | 5 | 6 | 11 | 84 | 153 | 7 | 11 | 26 | 43 | 51 | 231 | 26.9 | |
| Total for year 1911. | 4057 | 122 | 78 | 24 | 23 | 4 | 17 | 192 | 40 | 18 | 21 | 184 | 181 | 145 | 311 | 88 | 141 | 46 | 92 | 175 | 563 | 848 | 115 | 122 | 253 | 476 | 698 | 2512 | 37.1 |

| AVERAGE FOR PRECEDING TEN YEARS—1901-10. | | | | | | | | | | | | | | | | | Average Total for 1901-10. | | | | | | | | | | | | |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| AVERAGE FOR PRECEDING TEN YEARS—1901-10. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AVERAGE FOR PRECEDING TEN YEARS—1901-10. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AVERAGE FOR PRECEDING TEN YEARS—1901-10. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| January, . . . | 397 | 12 | 7 | 13 | 33 | 0.7 | 3.6 | 16 | 3.9 | 2.3 | 3.5 | 19 | 23 | 31 | 30 | 7 | 13 | 6 | 10 | 13 | 64 | 97 | 10 | 13 | 29 | 52 | 72 | 273 | 36.1 |
| February, . . | 357 | 8 | 11 | 0.9 | 2.6 | 0.4 | 6 | 18 | 3.8 | 1.7 | 2.4 | 17 | 20 | 25 | 23 | 8 | 14 | 6 | 10 | 14 | 61 | 91 | 10 | 9 | 26 | 44 | 68 | 248 | 36.0 |
| March, . . . | 412 | 6 | 10 | 1.2 | 1.7 | 0.3 | 8 | 20 | 6 | 3.5 | 3.3 | 17 | 22 | 26 | 28 | 9 | 12 | 7 | 9 | 13 | 60 | 93 | 10 | 13 | 32 | 47 | 70 | 265 | 35.9 |
| April, . . . | 406 | 3.2 | 9 | 0.7 | 0.9 | 0.4 | 3.7 | 19 | 4.8 | 3.5 | 2.0 | 16 | 20 | 18 | 27 | 8 | 12 | 7 | 11 | 11 | 56 | 81 | 9 | 12 | 29 | 41 | 61 | 233 | 36.0 |
| May, . . . | 422 | 1.7 | 8 | 0.3 | 0.9 | 0.6 | 1.4 | 19 | 6 | 3.8 | 3.2 | 18 | 14 | 14 | 24 | 7 | 12 | 4.6 | 9 | 12 | 48 | 71 | 9 | 12 | 26 | 39 | 62 | 219 | 37.7 |
| June, . . . | 406 | 1.2 | 4.8 | 0.2 | 0.8 | 0.3 | 1.8 | 20 | 3.8 | 3.5 | 3.0 | 19 | 14 | 9 | 26 | 6 | 10 | 4.2 | 8 | 11 | 40 | 58 | 8 | 12 | 31 | 36 | 49 | 194 | 37.1 |
| July, . . . | 397 | 1.4 | 4.4 | 0.6 | 0.7 | 0.3 | 0.3 | 14 | 3.0 | 2.6 | 2.3 | 15 | 12 | 8 | 22 | 4.8 | 10 | 4.9 | 8 | 14 | 39 | 53 | 7 | 9 | 23 | 34 | 46 | 172 | 37.9 |
| August, . . . | 369 | 1.7 | 2.9 | 0.6 | 1.2 | 0.4 | 0.7 | 14 | 3.9 | 2.1 | 2.7 | 21 | 8 | 8 | 21 | 9 | 10 | 4.3 | 8 | 13 | 47 | 59 | 7 | 9 | 24 | 35 | 46 | 180 | 36.7 |
| September, . | 366 | 0.8 | 2.5 | 1.1 | 1.2 | 0.1 | 0.2 | 13 | 2.6 | 2.4 | 2.7 | 25 | 12 | 7 | 18 | 7 | 8 | 3.9 | 8 | 12 | 52 | 67 | 9 | 9 | 21 | 33 | 40 | 179 | 33.5 |
| October, . . | 401 | 3.2 | 2.5 | 1.2 | 1.8 | 0.7 | 0.8 | 16 | 2.8 | 1.4 | 1.5 | 20 | 13 | 13 | 22 | 6 | 11 | 3.9 | 8 | 12 | 53 | 69 | 8 | 11 | 22 | 38 | 46 | 194 | 34.9 |
| November, . | 362 | 6 | 3.3 | 1.2 | 2.1 | 0.4 | 2.0 | 12 | 2.3 | 2.7 | 1.7 | 20 | 15 | 17 | 24 | 6 | 12 | 4.6 | 9 | 15 | 54 | 73 | 7 | 8 | 21 | 43 | 59 | 211 | 37.5 |
| December, . | 387 | 9 | 5 | 1.7 | 2.0 | 0.1 | 3.8 | 18 | 2.8 | 2.8 | 2.5 | 17 | 21 | 26 | 26 | 8 | 12 | 7 | 11 | 12 | 65 | 91 | 9 | 12 | 24 | 45 | 67 | 248 | 35.9 |
| Average Total for 1901-10. | 4682 | 54 | 70 | 11 | 19 | 4.7 | 32 | 199 | 46 | 32 | 31 | 224 | 194 | 202 | 291 | 86 | 136 | 63 | 109 | 153 | 639 | 903 | 103 | 129 | 308 | 487 | 686 | 2616 | 36.3 |

total rainfall for the year. The driest month was September, with only 1.0 inch of rainfall. The first and second quarters of the year were remarkably dry.

The atmospheric humidity for the whole year (79 per cent.) was slightly under the average (80). It was lowest in September (73) and highest in December (86). Northerly winds were most prevalent in April, north-easterly winds in May, easterly winds in May and March, and south-easterly winds in December, October, and June. Southerly winds were much in evidence throughout every month of the year, except March. They were most prevalent in August and December. South-westerly winds prevailed chiefly in the three coldest months of the year, namely, January, February, and December, and least in October. Westerly winds were much more prevalent in the first two months of the year and in September than in any of the other months; and north-westerly winds were most abundant in October, but were also common in April and November. The month with the highest average wind velocity was March (265 miles per day). November came next to March, with 251; while the month with the lowest wind velocity was July, with 145. According to the average of preceding years, the most windy month is January, and the least is August.

Turning to the table of deaths, we find from that part of it which gives the average for the ten years 1901-10 that the most fatal month for the population as a whole is January, with 272 deaths, and the least fatal is July, with 172 deaths. Infantile mortality reaches its maximum in January and December, with 64 and 65 deaths, respectively, and its minimum in June and July, with 40 and 39 deaths, respectively. The proportion between the extremes is much the same for the total death-rate and for the infantile death-rate. Deaths of children at the "school" age are most common in the first three months of the year, and least common in July and August. At the "adolescent" age-period, the deaths are most numerous in the second quarter and least numerous in the third quarter. The high mortality in the second quarter is in considerable measure due to an increase of deaths from pulmonary tuberculosis, following, no doubt, upon the rigours of the winter. At the higher age-periods, the greatest number of deaths is in January and the lowest is in September.

During the year 1911, the highest mortality at all ages was in December, with 291 deaths, and the lowest in June, with 151 deaths. There was thus a distinctly greater difference between the maximum and minimum than in the averages for the preceding ten years. The infantile mortality was exceptionally high in November and December, with 124 and 153 deaths, respectively, and lowest in July, with 40 deaths. The averages for November and December in the preceding ten years were only 73 and 91, respectively. The excessive mortality in these last months of 1911 was due, as indicated in an earlier part of the report, to the great prevalence of measles, and, in part, to whooping cough.

Deaths from zymotic diseases were unusually common during the year—measles, especially in the last months of the year; whooping cough, in the early summer months, but also in December; scarlet fever and diphtheria, in the last four months of the year; and influenza, in the first three months. Pulmonary

tuberculosis produced the largest number of deaths in February and March, with 21 and 22, respectively, and 10 in January. Deaths from diseases of the digestive system were most abundant in September, but were not above the average for that month. They were least common in April. Pneumonia produced the largest number of deaths (32) in December, and the fewest in August, when there were only 2 deaths. Bronchitis, like pneumonia, was also most fatal in December, with 30 deaths, and least fatal in August and September, with 4 deaths in each month. The month with the largest number of deaths from diseases of the heart and other parts of the circulatory system was March, with 37 deaths, and the lowest was July, with 19 deaths. Cerebral apoplexy was most common as a cause of death in the first two months of the year and least common in April. Prematurity, as a cause of death, was, as usual, much more common in the winter months than in the rest of the year.

The average age at death, which was, for the whole year, 37·1 years, as against 40·8 for the preceding year, and an average of 36·3 for the years 1901-10, was highest in February, with 42·1 years, and lowest in December, with 26·9. The low average age at death in December is due to the large proportion of infants dying during this month from measles and whooping cough.

HOUSING.

During the year 1911, the practice in force during many years of making a complete sanitary survey of every house in which cases of diphtheria, typhus fever, typhoid fever, puerperal fever, and epidemic cerebro-spinal meningitis had occurred, as also all houses in which deaths from scarlet fever had taken place, was continued. In this year the practice was begun of making a similar examination of all houses from which cases of phthisis had been notified. In preceding years, this examination had been confined, so far as phthisis was concerned, to those houses in which deaths from this disease had occurred. The number of houses thus examined in connection with infectious diseases amounted to 575. These surveys were in addition to the usual inspections carried out day by day by the nuisance inspectors within their own districts. The number of these inspections and the nature of the defects found and dealt with are given in the monthly and annual reports of the Sanitary Inspector. During the year, a general survey or inspection of all the older and more dilapidated houses was commenced, similar to the survey made in 1892, which led to all the more insanitary houses at that time being closed during the succeeding years. No action was taken under Sections 17 and 18 of the Housing and Town Planning Act, the powers in respect of insanitary and uninhabitable houses under this Act being, for ordinary purposes in Aberdeen, less satisfactory and more difficult to work than those possessed in the local Acts, and especially the Act of 1881. The general survey being carried out at present is mainly with a view to action so far as individual houses are concerned under Section 72 of the local Act of 1881, and partly with a view to the possibility of certain schemes being formulated under the Housing of the Working Classes Act of 1890.

In connection with the various inspections of houses during the year, a large number of notices were issued by the Sanitary Inspector dealing with drainage and sanitary conveniences, dilapidations, improvements of ventilation and lighting, want of cleanliness, dampness, overcrowding, and paving of passages and courts. Altogether, 1,564 intimations were issued under the Public Health Act, which, in about one-fifth of the cases, had to be followed up by notices under the authority of the Town Council because of the intimations not being complied with. In the ultimate result, practically all the more important requirements of the Sanitary Department were met, and in several instances, where the requirements were not complied with, the houses were subsequently not let. Details of the various matters dealt with are given in the report of the Sanitary Inspector.

In 25 cases, houses or apartments were closed—8 because of their being underground within the meaning of the Public Health Act and 17 because of being undersized or insufficiently lighted or ventilated.

Since special attention began to be given to tuberculous cases, a large amount of work has been done by the Department in inspecting the windows of houses for the purpose of seeing that the sashes are so hung or arranged as to admit of their being easily opened for purposes of ventilation. As mentioned in the report for the preceding year, some difficulty has been experienced in persuading owners and agents of property to introduce such hanging. There is no definite power in any general Act for dealing with the opening of windows; but the local Act of 1867 requires that the windows of a dwelling-house should be "so constructed or hung that at least one-third of each window may be conveniently and easily opened." Considerable progress is being made in having this requirement given effect to. It seems desirable that more explicit powers for dealing with this important matter should be provided in a general Act.

WATER SUPPLY.

As was mentioned in the report for the preceding year, a scheme for introducing an entirely new water supply from the River Avon failed to receive the approval of a Committee of the House of Lords, before whom the necessary Bill was, in the first instance, brought. This took place in the early months of 1910, and in the later part of the year the preponderance of feeling in the City against the scheme was sufficient so to alter the composition of the Council at the usual election in November that the majority of the Council has since that date been in favour of ascertaining whether an adequate and sufficiently pure supply of water could not be obtained from the source of the present supply, namely, the River Dee. Mainly with this object, a new Water Department was created, with a special Water Engineer, who has since his appointment, early in 1911, been steadily engaged in making full investigation of the resources of the Dee Valley.

Whatever scheme may be formulated as a result of these investigations, there can be no doubt that it is urgently necessary that steps should be taken to supply the City with a water supply free from contamination with disease-producing micro-organisms. This can be done either by taking the water from

unpolluted sources such as the upper reaches of the River Avon or the River Dee, or by purifying the present supply from the Dee at Invercannie. Aberdeen is in an exceptional position among the larger towns in the kingdom in drawing its water from a river in an inhabited area, and at a fairly low point in such area, without any means of purification beyond the few days' storage rendered possible by the collecting reservoir near the river and the service reservoirs at the City. With increased storage, coupled with a system of filtration, the water could be made safe for drinking purposes, on the assumption that the filters receive constant and careful attention. It has recently been suggested, as the result of experiments made by Dr. Houston, Analyst for the Metropolitan Water Board, that lime in small proportion might be utilised for the destruction of the pathogenic micro-organisms in the water. Some experiments have recently been made by the Water Engineer and myself with this method of purification, the results of which will shortly be submitted to the Water Committee.

SEWERAGE.

The main northern district intercepting sewer from Woodside to Victoria Bridge was completed in the beginning of 1911. This sewer, which intercepts the whole of the sewage from the northern parts of the City, joins the Girdleness outfall sewer at Victoria Bridge, which has its outlet into the North Sea at Girdleness Point. By the completion of the northern district sewer, the whole of the sewage from the City, with the exception of two low-lying areas—one situated between South Market Street and Dee Village and the other east of the Shiprow and Park Street—is now being discharged at Girdleness. The district between South Market Street and Dee Village is served by a low-level storage sewer discharging into the River Dee east of Victoria Bridge. The sewage from the district east of Shiprow is discharged into the tidal waters of the River Dee at Abercrombie's Jetty.

During the year, operations for the construction of a storm-water culvert from School Road along the Seaton Links to the River Don were commenced. This culvert will take the waters of the Powis or Tile Burn, and will also carry off part of the storm-waters from the main northern district intercepting sewer.

DESTRUCTION OF REFUSE.

The methods for the collection of refuse in Aberdeen have for many years been very satisfactory, Aberdeen being one of the first towns in this country to undertake a system of daily collection. There are now practically no ash pits connected with dwelling-houses in the City. The only difficulty relates to the disposal of the refuse, which, on account of the low manurial value of the greater part of it, is in less demand among farmers than it was some years ago. For some years, a considerable part of the refuse has been employed in making up low-lying ground at the Links and in constructing certain roadways. These means of disposal are now, however, nearing exhaustion, and the Council has accordingly, through its Cleansing Committee, been making careful inquiry into the use of destructors for dealing with

the refuse by combustion. A site has been acquired for such a destructor, and plans for the construction of the destructor have been under consideration. More recently, however, a proposal has been made to defer for some years the erection of a destructor, and meanwhile to utilise certain disused quarries in the vicinity of the City for the tipping of the refuse. The main and practically sole reason for this change of view is that the cost of dealing with the refuse would be much less under this scheme than with a destructor. The value of the steam to be raised from burning the refuse is not, according to the estimate of the Electrical Engineer, likely to prove so high as was at one time anticipated.

CITY HOSPITAL.

(Table XVIII.)

At the commencement of 1911, we were able to enter into the full enjoyment of the considerable extension that had been completed towards the end of 1910. One of the main features of that extension was the provision of a pavilion for the treatment of cases of tuberculosis, especially of cases of pulmonary tuberculosis. During 1911, this provision for tuberculous cases was augmented by the erection of two wooden shelters—one, with 15 beds, for males and the other, with 7 beds, for females—to which reference has already been made in an earlier part of the report. The pavilion and the shelters have been found to be very satisfactory for the purposes for which they were provided. In order to complete the facilities at this pavilion, a small but adequately fitted laboratory was provided in a basement room in the pavilion.

The tuberculosis pavilion, with its constantly open windows, and with its obviously good effects on the health of both the patients and the nursing staff, has had an important educational influence on the whole hospital in making evident the advantages of abundance of fresh air in the treatment of patients of all classes and under practically all conditions. Some years ago, in many hospitals, more attention was given to maintaining an equable temperature than to procuring ample ventilation. Nowadays, hospital physicians are beginning to recognise that an abundant supply of fresh air is the primary requirement of a sick ward, while the question of temperature is secondary, provided clothing and bedding are adequate.

The number of cases admitted to the City Hospital during the year was the largest on record, namely, 1,636. The next highest year was 1908, with 1,346 admissions. In 1910, the admissions amounted to 975, and the average for the ten years preceding 1911 was 815, or almost exactly one-half of the number for 1911. It affords some indication of the work at the City Hospital during recent years when it is stated that, in the *four* years ending 1911, upwards of 5,000 cases were admitted, or very nearly the same number as during the preceding *eight* years.

In a preceding table (Table XIV.) the proportion of the cases of the three most common of the notifiable zymotics admitted to hospital has already been given—the proportion being 82 per cent. for scarlet fever, 89 for diphtheria, and 97 for typhoid fever.

TABLE XVIII.

91

ABERDEEN.—CITY HOSPITAL.—ANNUAL SUMMARY, 1911.

ZYMOTIC ADMISSIONS AND DEATHS DURING EACH YEAR FROM 1901 TO 1911 INCLUSIVE.

| DISEASE. | | 1911 | 1910 | 1909 | 1908 | 1907 | 1906 | 1905 | 1904 | 1903 | 1902 | 1901 | 1901-1910. | |
|--|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------------|----------------|
| | | | | | | | | | | | | | Total | Annual Average |
| Small Pox, | Admitted, ... | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 7 | 11 | 1'1 |
| | Died, ... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0'1 |
| | Percent. of Deaths to Admissions, ... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14'3 | ... | 9'1 |
| Scarlet Fever, ... | Admitted, ... | 1025 | 613 | 871 | 1005 | 448 | 140 | 185 | 534 | 408 | 278 | 340 | 4822 | 482'2 |
| | Died, ... | 19 | 7 | 7 | 15 | 4 | 5 | 7 | 16 | 9 | 8 | 5 | 83 | 8'3 |
| | Percent. of Deaths to Admissions, ... | 1'9 | 1'1 | 0'8 | 1'5 | 0'9 | 3'6 | 3'8 | 3'0 | 2'2 | 2'9 | 1'5 | ... | 1'7 |
| Diphtheria, | Admitted, ... | 318 | 272 | 244 | 239 | 174 | 192 | 127 | 131 | 120 | 107 | 101 | 1707 | 170'7 |
| | Died, ... | 17 | 32 | 22 | 15 | 14 | 17 | 7 | 9 | 8 | 8 | 5 | 137 | 13'7 |
| | Percent. of Deaths to Admissions, ... | 5'3 | 11'8 | 9'0 | 6'3 | 8'0 | 8'9 | 5'5 | 6'9 | 6'7 | 7'5 | 4'9 | ... | 8'0 |
| Typhoid Fever (including Para-Typhoid), | Admitted, ... | 33 | 16 | 28 | 10 | 17 | 9 | 13 | 24 | 22 | 28 | 70 | 237 | 23'7 |
| | Died, ... | 3 | 2 | 2 | 0 | 4 | 0 | 3 | 2 | 0 | 1 | 1 | 15 | 1'5 |
| | Percent. of Deaths to Admissions, ... | 9'1 | 12'5 | 7'1 | 0 | 23'5 | 0 | 23'1 | 8'3 | 0 | 3'6 | 1'4 | ... | 6'3 |
| Typhus Fever, ... | Admitted, ... | 3 | 0 | 0 | 0 | 0 | 0 | 97 | 22 | 0 | 0 | 0 | 119 | 11'9 |
| | Died, ... | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 13 | 1'3 |
| | Percent. of Deaths to Admissions, ... | 0 | 0 | 0 | 0 | 0 | 0 | 12'4 | 4'5 | 0 | 0 | 0 | ... | 10'9 |
| Measles, ... | Admitted, ... | 86 | 4 | 7 | 36 | 30 | 50 | 6 | 72 | 78 | 156 | 133 | 572 | 57'2 |
| | Died, ... | 4 | 0 | 1 | 1 | 11 | 3 | 0 | 1 | 9 | 3 | 4 | 53 | 3'3 |
| | Percent. of Deaths to Admissions, ... | 4'7 | 0 | 14'3 | 2'8 | 36'7 | 6'0 | 0 | 1'4 | 11'5 | 1'9 | 3'0 | ... | 5'8 |
| Tuberculosis | Admitted, ... | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | ... |
| | Died, ... | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | ... |
| | Percent. of Deaths to Admissions, ... | 7'4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | ... |
| Other Cases, | Admitted, ... | 49 | 70 | 63 | 56 | 64 | 54 | 193 | 54 | 31 | 38 | 61 | 684 | 68'4 |
| | Died, ... | 6 | 9 | 14 | 10 | 14 | 6 | 8 | 7 | 5 | 3 | 1 | 77 | 7'7 |
| | Percent. of Deaths to Admissions, ... | 12'2 | 12'9 | 22'2 | 17'7 | 21'9 | 11'1 | 4'1 | 13'0 | 16'1 | 7'9 | 1'6 | ... | 11'3 |
| Total Cases, | Admitted, ... | 1636 | 975 | 1213 | 1346 | 734 | 445 | 621 | 840 | 659 | 607 | 712 | 8152 | 815'2 |
| | Died, ... | 58 | 50 | 46 | 41 | 47 | 31 | 37 | 36 | 31 | 23 | 17 | 359 | 35'9 |
| | Percent. of Deaths to Admissions, ... | 3'5 | 5'1 | 3'8 | 3'0 | 6'4 | 7'0 | 6'0 | 4'3 | 4'7 | 3'8 | 2'4 | ... | 4'4 |

The accompanying table gives a summary of all the cases admitted, together with a corresponding summary for each of the preceding ten years. As usual, the bulk of the patients were suffering from scarlet fever, but there was also a large number (318) of cases of diphtheria—the largest number of cases ever dealt with in any year since the hospital was opened.

Scarlet Fever.—Of this disease, 1,025 cases were admitted. The case-mortality was higher than in any of the preceding four years, being 1·9 per cent., but considerably lower than in the earlier years of notification. As compared with hospitals elsewhere, this is a low case-mortality.

Diphtheria accounted for 318 cases. The number of patients suffering from this disease admitted to the hospital has been almost steadily rising year by year for a considerable period, so that it is now fully three times as great as it was ten years ago. This is due partly to a larger proportion of the cases receiving hospital treatment, but mainly to the increasing prevalence of the disease. The type of the disease during 1911 was milder than usual, the case-mortality being 5·3 per cent., as against 11·8 in the preceding year, and an average of 8·0 per cent. in the preceding ten years.

As usual, a large proportion of the fatal cases died shortly after admission, the cases having been sent to the hospital only after the condition of the patient had become critical. Out of a total of 17 deaths, 8 took place within twenty-four hours from the time of admission. Probably, in several cases, the parents of the patients were to blame in not sooner calling in a doctor; but in other cases, where the doctors had been in attendance sufficiently early, there had been delay in notifying the case, partly from doubt as to diagnosis and partly from the hope that the case would not develop symptoms requiring hospital treatment. There ought to be as little delay as possible, even if the diagnosis is not quite complete, in sending the patient to hospital, especially if under 4 or 5 years of age.

None of the deaths from diphtheria occurred in very young infants. The average age of all the patients who died was $3\frac{1}{2}$ years. The average duration of the disease in all patients who died from diphtheria in the hospital was $6\frac{1}{2}$ days from the time of admission.

Out of the total cases treated (318), intubation or tracheotomy was found to be necessary on the admission of the patient in 40 cases, or about 1 in every 8 cases, and succeeded—or at least greatly helped—in saving life in 27 cases.

Of the 40 cases requiring surgical treatment, 25 were treated by intubation of the larynx and 12 by tracheotomy. In 3 cases, both intubation and tracheotomy were performed. Of the 25 patients treated by intubation, 3 died. The average age of those intubated was $4\frac{1}{2}$ years. Of the 12 cases treated by tracheotomy, 9 died, their average age being slightly over 2 years, but the cases so treated were of a worse type than those treated by intubation and were unsuitable for intubation. Of the 3 cases on whom both intubation and tracheotomy were performed, 1 died, the child being one year of age.

The average age of the 13 patients dying after operation was $2\frac{1}{4}$ years. Of those, 3 were practically moribund on admission, 2 had been suffering from measles when diphtheria occurred, and 1 had recently been operated on for tuberculous mastoiditis.

In only 19 of the total cases admitted—or about 1 in 17—had antitoxin been administered before admission, although the Department continues to offer antitoxin gratuitously to medical men and to lend a sterilised syringe.

Typhoid Fever was the cause of the admission of 33 cases, or about twice as many as in the preceding year. Three of the cases died, giving a case-mortality of 9.1 per cent., as against 12.5 per cent. in the preceding year, and an average of 6.3 per cent. in the preceding ten years. No case was discharged from the hospital until the urine and stools were found to be free from the bacillus after two successive examinations. Observations have shown that the appearance of the bacillus in the excreta of a convalescent typhoid case is apt to be intermittent, and that weeks may even pass without any appearance of the bacillus, when suddenly, later on, it once more appears. Two successive examinations are, therefore, not conclusive, but they are about as many as can be expected to be made in the ordinary routine of hospital administration. It is our practice to allow, at least, a week to elapse between the successive examinations.

Measles.—During the year, 86 cases of measles were admitted—mostly within the last two months, and mainly of children under 4 to 5 years of age. As mentioned in an earlier part of the report, it was felt desirable to provide hospital accommodation for the treatment of a number of the children of the poorer classes suffering from measles. The mortality was, as usual, high among such children, and it was felt that hospital treatment was likely to increase the chances of recovery. These expectations were partly borne out by the fact that, out of the 86 cases admitted, only 4 died, which, having regard to the age of the children, is a very low mortality. It is, however, only proper to mention that in the early months of the succeeding year the mortality was considerably higher.

Tuberculosis.—Altogether, 119 patients suffering from tuberculosis were admitted to the hospital in order to receive treatment for this disease. Three of the patients, after being admitted in the earlier months of the year and discharged, were re-admitted in the later months owing to the disease again becoming progressive. Of the 119 patients, 63 were male and 56 were female; 21 were under fifteen years of age, 38 were between fifteen and twenty-five years, 49 were between twenty-five and forty-five years, and 11 were above forty-five years.

All the patients were suffering from pulmonary tuberculosis, except 2 children who were suffering from non-pulmonary forms of tubercle, and 4 children who were brought from tuberculous families and fall to be classed as pre-tuberculous rather than as actually tuberculous patients.

Patients in all stages of pulmonary tuberculosis were admitted, the very advanced cases being placed in the four small wards attached to the pavilion. It is

not easy to classify with accuracy the cases according to the usually recognised three stages of the disease, but the grouping was approximately as follows:—In first stage, 26 cases; in second stage, 26 cases; and in third stage, 57 cases. Nine patients—all in the third stage on admission—died in the hospital. The great bulk of the patients showed marked improvement in their general health, especially those in the first and second stages, but the improvement in the lung condition was not, as a rule, so pronounced. This is the usual experience of all sanatoria. Young patients, in not too advanced a stage of the disease, did remarkably well, and encourages one to hope to make full provision for the treatment of such patients. It was disappointing to find—but this is also the common experience of all sanatoria wherever situated—that many of the patients who had shown remarkable clinical improvement still retained tubercle bacilli in their sputum. A fuller analysis of the cases and the results will be given after the completion of a full year's experience. There cannot be any doubt of the boon to many families in having the consumptive member removed from a small and sometimes crowded and, not infrequently, poor home, where proper isolation and adequate feeding and nursing were difficult and even impossible to obtain. The gratitude of the patients themselves and their relatives has been a pleasing feature of the work.

Among other zymotic diseases treated in the hospital were 10 cases of *erysipelas* and 2 of *puerperal fever*.

MATTHEW HAY.



